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PROCEEDINGS

OF THE

AMERICAN ASSOCIATION OF MUSEUMS

VOL. IX

1915

PROCEEDINGS

OF THE

AMERICAN ASSOCIATION OF MUSEUMS

RECORDS OF THE TENTH ANNUAL MEETING HELD IN SAN FRANCISCO

JULY 6–9, 1915

CHARLESTON, S. C.
1915

EDITED BY
PAUL M. REA, SECRETARY
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CHARLESTON, S. C.

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PROCEEDINGS
OF THE
Tenth Annual Meeting
OF THE
American Association of Museums
HELD IN SAN FRANCISCO
July 6 – 9, 1915

The eastern members of the Association assembled in Chicago on June 30 and traveled to San Francisco in a special car, thus giving opportunity en route for better acquaintance and for exchange of experiences and ideas. Stops were made at Denver and Salt Lake City, where entertainment was provided by local museums.

Upon arriving in Denver Friday morning, July 2, the party proceeded at once to the Colorado Museum of Natural History, which was inspected under the guidance of Director Figgins and members of his staff. At noon the Association was tendered a luncheon by the Colorado Museum, at which members of the board of trustees were present, and in the afternoon the party was taken in automobiles about the city and vicinity.

Leaving Denver Friday night the party arrived in Salt Lake City Saturday afternoon, where it was received by Dr. Talmage of the Deseret Museum and conducted to the Mormon Tabernacle for a special concert which had been arranged for the benefit of the Association. Following the concert the members were shown other features of the Church grounds and were then taken to the Deseret Museum, where the collections were carefully inspected. This visit was followed by a dinner tendered to the Association by the Mormon Church. President Joseph Smith of the Mormon Church presided at the dinner and extended a very cordial welcome to the members of the Association.

The party left Salt Lake City Saturday evening and arrived in San Francisco Monday morning, July 5, where it was welcomed by Mr. Harry C. Peterson on behalf of the local museums.

SESSION OF TUESDAY, JULY 6

Morning

The Association assembled in the temporary quarters of the California Academy of Sciences for registration. The first session was called to order at ten o'clock by President Oliver C. Farrington. In his opening remarks, the President emphasized the national character of the Association and the importance of personal contact and exchange of ideas among the members from all sections of the country. He stated that the Association was induced to meet in San Francisco not only by the very cordial invitations extended by the institutions of the Pacific Coast, but by the desire to promote closer relations between the museums of the East and of the West.

The roll of attendance was then called by the Secretary and the following is a list of those who participated in the meetings:

ROLL OF ATTENDANCE

Prof. George H. Barron, Golden Gate Park Memorial Museum, San Francisco, Cal.
Mr. Lloyd Bemis, Chicago, Ill.
Miss Edyth M. Berwick, Washington, D. C.
Mr. William Berwick, Library of Congress, Washington, D. C.
Dr. Wm. T. Brigham, Bernice P. Bishop Museum, Honolulu, Hawaii.
Mr. Edward L. Burchard, Civics Extension Committee, Chicago, Ill.
Mr. Clyde H. Burroughs, Detroit Museum of Art, Detroit, Mich.
Mr. Newton H. Carpenter, Art Institute of Chicago, Chicago, Ill.
Mr. Arthur S. Coggeshall, Department of Paleontology, Carnegie Museum, Pittsburgh, Pa.
Miss Ethyl Coggeshall, Pittsburgh, Pa.
Dr. Robert E. Cowan, San Francisco, Cal.
Dr. A. R. Crook, Illinois State Museum, Springfield, Ill.
Mrs. D. W. deVeer, Oakland Public Museum, Oakland, Cal.
Dr. Roy E. Dickerson, California Academy of Sciences, San Francisco, Cal.
Prof. Homer R. Dill, Museum of the State University of Iowa, Iowa City, Iowa.
Mrs. Daniel C. Driscoll, Chicago, Ill.
Miss Lucy C. Driscoll, Art Institute of Chicago, Chicago, Ill.
Mr. Robert G. Eberhardt, Mrs. A. B. Spreckels Private Museum, San Francisco, Cal.
Dr. Oliver C. Farrington, Field Museum of Natural History, Chicago, Ill.

Mr. E. W. Gifford, Museum of Anthropology, University of California, San Francisco, Cal.
Dr. Joseph Grinnell, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
Mrs. Herman J. Hall, Art Institute of Chicago, Chicago, Ill.
Prof. Junius Henderson, Museum of the University of Colorado, Boulder, Colo.
Dr. Walter Hough, United States National Museum, Washington, D. C.
Mr. Henry R. Howland, Buffalo Society of Natural Sciences, Buffalo, N. Y.
Mr. C. M. Jackson, Stockton, Cal.
Mrs. C. M. Jackson, Stockton, Cal.
Miss Margaret T. Jackson, Minneapolis Institute of Arts, Minneapolis, Minn.
Miss A. Marie Kelton, Oakland Public Museum, Oakland, Cal.
Mr. Joseph Martin, Grand Rapids, Mich.
Mr. S. Owen, Modesto High School, Modesto, Cal.
Mr. Harry C. Peterson, Leland Stanford Junior Museum, Palo Alto, Cal.
Miss Theodora Pollok, Piedmont, Cal.
Mr. Paul M. Rea, Charleston Museum, Charleston, S. C.
Mr. Remi H. Santens, Taxidermic Laboratory, Carnegie Museum, Pittsburgh, Pa.
Mrs. Remi H. Santens, Pittsburgh, Pa.
Mr. Herbert E. Sargent, Kent Scientific Museum, Grand Rapids, Mich.
Mr. George Shrosbree, Milwaukee Public Museum, Milwaukee, Wis.
Mrs. George Shrosbree, Milwaukee, Wis.
Miss A. C. Stevens, Field Museum of Natural History, Chicago, Ill.
Mr. Harry S. Swarth, Museum of History, Science and Art, Los Angeles, Cal.
Dr. James E. Talmage, Deseret Museum, Salt Lake City, Utah.
Dr. Walter P. Taylor, Museum of Vertebrate Zoology, University of California, Berkeley, Cal.
Mr. Henry L. Ward, Public Museum of the City of Milwaukee, Milwaukee, Wis.
Prof. T. T. Waterman, Department of Anthropology, University of California Berkeley, Cal.
Miss Laura L. Weeks, Charleston Museum, Charleston, S. C.
Miss Louise Wilcomb, Oakland, Cal.
Miss Geneva I. Willard, Art Institute of Chicago, Chicago, Ill.
Miss Grace M. Williams, Art Institute of Chicago, Chicago, Ill.

Secretary Paul M. Rea then presented the following report:

REPORT OF THE SECRETARY

Your Secretary has the honor to submit the following report for the year ended May 15, 1915:

The *Proceedings* of the Milwaukee-Chicago meeting were edited and printed during the summer and published October 2, 1914. This is not only the largest but probably the most interesting of the eight volumes now issued. It represents a standard of excellence which the Association should endeavor to maintain in future, although it may not always be possible to print so large a volume.

Serious loss has been suffered by the death of four active members. Mr. William M. R. French, charter member, ex-president, and one of our most active members, died June 3, 1914. His last illness began just before the closing session of our convention in Chicago, where he was our host, and the news of his death was an unexpected shock to all. Prof. Franklin W. Hooper, director of the Brooklyn Institute of Arts and Sciences and a charter member of the Association, died August 1, 1914. Dr. Charles S. Minot, a charter life member, died November 19, 1914. This meeting is saddened by the death on June 23, of Mr. C. P. Wilcomb, curator of the Oakland Public Museum, charter active member of the Association, and intended host at this meeting.

The Association has lost by resignation three sustaining and seven active members. Three active members have been dropped from the rolls for two years' delinquency in payment of dues.

Six sustaining members and ten new active members have been received during the year ended May 15, 1915, as follows:

NEW MEMBERS

Sustaining Members

Buffalo Historical Society, Buffalo, N. Y.
Buffalo Society of Natural Sciences, Buffalo, N. Y.
Illinois State Museum, Springfield, Ill.
Minneapolis Institute of Arts, Minneapolis, Minn.
Newark Museum Association, Newark, N. J.
Provincial Museum, Department of Agriculture, Regina, Saskatchewan, Canada.

Active Members

Mr. Clarence J. Albrecht, Director of Vertebrate Exhibits, State Museum, University of Washington, Seattle, Wash.
Dr. B. H. Bailey, Curator, Coe College Museum, Cedar Rapids, Iowa.
Mr. Clyde H. Burroughs, Secretary and Assistant Director, Detroit Museum of Art, Detroit, Mich.
Miss Anna B. Crocker, Curator, Portland Art Association, Portland, Ore.
Mr. John A. Doelle, Superintendent of Schools, Houghton, Mich.
Miss Helen W. Foster, Assistant, Newark Museum Association, Newark, N. J.
Miss Alice W. Kendall, Assistant, Newark Museum Association, Newark, N. J.
Mr. Angus Snead Macdonald, Snead and Company Iron Works, Jersey City, N. J.
Mrs. M. B. Morris, Docent, Central Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
Miss Winifred Sexton, Secretary, Fine Arts Institute, Kansas City, Mo.

Members received since May 15 will be counted in the year 1915–1916. Our membership is apparently a little more than holding its own, yet I am sure we all feel that there are still many museums and museum workers who should be associated with us. So to present our work as to attain this result is the immediate problem before us.

One field which has never been adequately developed and the importance of which has been stressed by ex-President Gilman, is to be found among the trustees of museums. To have our trustees familiar with the proceedings of the Association would mean keener and better-informed interest in our museums, while joint participation of trustees and museum workers in our meetings would greatly increase their value. Your Secretary had only to mention this matter at a meeting of the executive committee of his museum to obtain applications for active membership from the four members of the committee present, and steps were taken to bring the desirability of similar action to the attention of the rest of the trustees. No more desirable method of increasing our membership is open to us than by undertaking a campaign for trustee members.

Respectfully submitted,

PAUL M. REA, *Secretary.*

The report of the Secretary was accepted and ordered to be incorporated in the *Proceedings.*

In the absence of the Treasurer, Dr. W. P. Wilson, a summary of his report was presented by the Secretary, who stated that Dr. Wilson had never before failed to attend any of the meetings of the Association since its inception and that he was prevented from being present this year only by poor health. The report of the Treasurer was referred to an auditing committee consisting of Messrs. Carpenter, Ward and Dickerson, which subsequently reported that the accounts of the Treasurer had been examined and found correct.

The report of the Commission for Museum Cooperation was then presented by the Secretary as follows:

REPORT OF THE COMMISSION FOR MUSEUM COOPERATION

An account of the organization, purposes, and plans of the Commission for Museum Cooperation was submitted at the last meeting and was printed in full in Volume VIII of the *Proceedings.* Less progress can be reported this year than was expected, since the fundamental problem of financing the Commission had been only partially solved when the outbreak of the European war materially changed the financial situation of our own country. Under the conditions obtaining in the fall and winter it seemed inadvisable to undertake any expense for soliciting funds. It also seemed wise to conserve our resources and delay any general effort to execute the more ambitious plans of the Commission.

It has been possible, however, to perform some of the work proposed in the report of the Commission last year. The Secretary has written a second paper on the Educational Work of American Museums, which will appear in the forthcoming report of the United States Commissioner of Education. Through a misunderstanding incident to a change in editors, the first of these papers, published in 1914, was not distributed to the members of the Association as had been planned, but assurance has been received that reprints will be mailed to all members of the Association this year. It may be of interest to note that the report of 1914 was printed in a slightly abridged form in the May issue of the *Museums Journal of Great Britain.*

The Secretary has also prepared, at the request of the American Library Association, a paper on the Relations between Libraries and Museums. This was intended to be one of a series of monographs on library practice, but has not yet been printed.

These papers have been written with a view to giving greater publicity to museum activities and relationships, and thus to contribute to one of the purposes of the Commission for Museum Cooperation.

The Commission has employed a stenographer to carry on its work and to assist in the general work of the Secretary's office, thus making it possible to handle more efficiently the increasing correspondence and to maintain closer relations with museums throughout the country than would be possible otherwise.

With a return of better financial conditions and with active aid from our members the Commission for Museum Cooperation should be put in a position to develop its plans for the betterment of museum relations throughout the country.

Respectfully submitted,

PAUL M. REA, *Executive Officer.*

Concluding his report, the Secretary expressed his conviction that the work for which the Commission was organized is vital to further development of the Association and pregnant with possibilities of service to museums throughout the country, and that it is deserving of hearty support on the part of members of the Association.

In the discussion which ensued, Mr. Edward L. Burchard, secretary of the Civics Extension Committee in Chicago, inquired regarding the possibility of securing cooperation and assistance through the National Museum along lines similar to those by which the Library of Congress cooperates with the various state library commissions. The Secretary replied that while he had as yet seen no opportunity for such cooperation with the National Museum he had been in very close relations with the Bureau of Education, and that this cooperation was proving most helpful.

Dr. William T. Brigham of the Bishop Museum in Honolulu then gave a most interesting account of the work of his institution in the ethnology of the Pacific region. He made the striking statement that 98 per cent of the aboriginal material of the Pacific region is today in museums; that practically nothing of value can be obtained at the present time; and that most of the objects collected after a certain period are counterfeits made for the purpose of selling to tourists. It is extremely difficult for any but experts to distinguish these counterfeits from the originals. The Bishop Museum has in its collection large series of the genuine and of counterfeit articles, and the members of the staff are anxious to assist other institutions in determining material of this character. The museum is also desirous of assembling a complete catalog of all the aboriginal Pacific region material in the museums of the world. Much progress already has been made in the compilation of this catalog and the cooperation of leading institutions throughout the world has been obtained. Dr. Brigham gave many interesting details of his work in all parts of the world in this connection, in the course of which he has been able to correct many errors in the labeling and recording of material of this character.

Dr. Brigham then suggested the desirability of the Association interesting itself in securing some modification of the present postal laws, referring to the heavy burden placed upon museums in distributing their publications owing to the fact that most of these are issued as material comes to hand and are not published at sufficiently frequent or regular intervals to obtain second-class rates. He continued by pointing out that the Bishop Museum, which unfortunately is situated in the eighth zone, has to pay under the present laws at least 50 per cent more for postage on its publications than it did before the parcel post was established.

The discussion of the parcel post rate on books was continued by the Assistant Secretary, as follows:

Miss Laura L. Weeks (Charleston Museum, Charleston, S. C.).—"From my experience in mailing our last volume of *Proceedings* I can sympathize with Dr. Brigham. These books have usually weighed a little less than one pound and have gone for six and seven cents apiece by the old book rate. Under the new law I had to arrange our entire membership according to the parcel post zones and pay postage ranging from 8 cents for the third zone to 24 cents for the eighth zone. The majority of our members (205) are in the fifth zone which requires 14 cents postage. In the third zone we have but one member and in the eighth zone eighteen.

"The total cost of mailing this edition under the old mail rate would have been $27; under the parcel post rate $42.06. By using the express prepaid book rate of 15 cents for the sixth, seventh, and eighth zones, and parcel post for the nearer zones we reduced the cost of mailing to $40.16. Approximately two-thirds of our last edition, mailed to the fifth zone, cost more than the whole edition to all parts of the country would have cost under the old rate. This meant not only an increase in cost but also a large increase in labor as compared with the simple method of weighing one copy and putting the same postage on all the others. Yet cheapness and convenience are supposed to be the chief merits of the parcel post system!

"I think that if, as an Association, we can do anything to promote a more equitable and convenient adjustment of these rates it will be well worth our time and effort for the benefit not merely of the Association but of museums throughout the country as well."

Dr. Brigham then called attention to the fact that it is possible to send from Honolulu to London at the old book rate but that it is impossible to send to San Francisco at this rate since the parcel post law has been applied to books. Prof. Junius Henderson, curator of the Museum of the University of Colorado, endorsed the remarks of the preceding speakers and emphasized especially the fact that the expense of mailing publications is much greater now than before the parcel post law was applied to books.

Professor Henderson continued, bringing to the attention of the Association the very severe restrictions pertaining to the use of alcohol released from bond for scientific use and pointing out that many of the purposes for which this alcohol is necessarily used in all our laboratories are contrary to a strict interpretation of the law. He expressed the opinion that there must undoubtedly be many other legal problems concerning the affairs of the Association on which action might be taken to advantage by the Association as a body.

Dr. Brigham explained the peculiar situation of the Bishop Museum with regard to obtaining alcohol. The Act of Congress which prohibits anyone from holding title to more than 1000 acres of land in Hawaii prevents the incorporation of the Bishop Museum since the institution owns about one-third of the Hawaiian Islands. The internal revenue laws allow scientific institutions to withdraw alcohol free of tax only when they are incorporated. The museum therefore finds it necessary to obtain its alcohol from Germany at the regular price.

Miss Margaret T. Jackson of the Minneapolis Institute of Arts described the hardship which the present interpretation of the Cummings Act works upon art museums. As at present interpreted, this law requires every shipper to state the exact valuation of the shipment and insurance must be for the full amount of the valuation. This makes the cost of loan exhibitions almost prohibitive for small museums.

The Chair suggested that the several matters of a legislative character brought up in the above discussion called for too much work for them all to be referred to the Commission and that it might be well to appoint a special committee to handle these matters. At a subsequent session it was voted that such a committee on legislation be appointed and the Chair designated Dr. W. P. Wilson, Prof. Junius Henderson, and Mr. E. L. Burchard to serve on this committee.

The report of the Commission for Museum Cooperation was then approved.

No report was submitted from the committee on art membership and after some discussion the committee was discharged.

No report was submitted by the committee on museum pensions and in the belief that nothing further can be accomplished by this committee at the present time the committee was discharged.

It was voted that a committee to assist in developing the art side of the Association be appointed and the chair subsequently designated

Mr. N. H. Carpenter, Mr. H. W. Kent, and Miss Margaret T. Jackson to serve on this committee.

The Secretary read an invitation to the Association to name a delegate and alternate to represent the Association at the Second Pan-American Congress to be held in Washington in December, 1915. The Council recommended that the Association empower the President to appoint such delegate and alternate and that if possible a place be secured on the program for the presentation of a paper on some phase of the educational work of American museums. The Association so voted and the President appointed Secretary Rea and Dr. J. E. Talmage as delegate and alternate respectively.

It was called to the attention of the Association that the meeting of the Museums Association of Great Britain was being held in London simultaneously with the San Francisco meeting of the American Association of Museums. The Association voted that a cablegram be prepared by the President and Secretary to extend greetings to the Museums Association of Great Britain.

There being no further business, a paper descriptive of the new building of the California Academy of Sciences, by Dr. Barton W. Evermann, director of the Museum of the Academy, was read in the absence of the author by Dr. Roy E. Dickerson.

In the discussion following Dr. Evermann's paper Mr. Edward L. Burchard of the Civics Extension Committee in Chicago inquired what funds the Academy has for traveling exhibit work. Dr. Dickerson replied that this work is in its infancy and that the present tentative plan provides first for cooperation with the San Francisco schools and subsequently for an extension throughout the state. The work is intended to follow lines similar to the Harris Public School Extension of the Field Museum, although it is improbable that it can be undertaken on so extensive a scale. It is hoped, however, that habitat groups of small animals can be provided. Mr. Burchard inquired whether the extension of the educational work to schools throughout the state would be accomplished in cooperation with the city or county authorities, referring to the plan of the State Library of California which has been very generally commended and which reaches the entire state through the agency of the city and county libraries. Dr. Dickerson replied that plans had not been matured as yet and that only general arrangements had been discussed with the board of education in San Francisco.

Mr. E. W. Gifford of the Museum of Anthropology of the University of California stated that the university had been interested for some time in the matter of traveling exhibits for schools. He also reported that there had been a considerable attendance of classes of school children at the museum in the Affiliated Colleges, but that an unfortunate conflict had been noticed between traveling exhibits and class attendance at the museum. Traveling exhibits have been found most successful outside of the city, and in the city dependence has been placed chiefly upon encouraging the attendance of classes for lectures and special demonstrations.

Miss Theodora Pollok, formerly of the Newark Museum Association, then presented the following account of plans in which she is interested for the state-wide use for educational purposes of a part of the material now contained in the Panama-Pacific International Exposition:

A STATE TRAVELING MUSEUM

To the members of this Association it will be no surprise to learn that the Exposition in San Francisco has stirred the imaginations of many Californians to the forming of a museum from exhibits to be gathered from the fair. To the museum-making mind the surprising thing would be not to do this, for mere acquisitiveness should insure some sort of a museum from so rich a source. Indeed our real problem should be to decide not whether we should have a museum, but what form of museum the trend of the times points to, and to discern how that could be adapted to the particular character and needs of our own people and what is the ablest and most practicable machinery for accomplishing our ends.

Particularly have we been fired by a desire to find the secret of and, as far as possible, to perpetuate that holiday curiosity and childlike joy in learning by looking which is one of the charms of the crowds at the fair, as well as one of the first necessities in making a fact or a principle 'stick' in the mind.

I suppose that a museum state-wide in scope would suggest itself in any one of the 'progressive' western states, where the establishment of new state bodies is less hampered by precedent than in longer-settled sections of the country, in spite of the fact that more educational work is done by the exhibit in the East than on the Pacific coast. But the idea of having such exhibits travel about the state —usually in small, one-subject exhibits, in all probability—is almost inevitable today, especially perhaps in California.

In the first place, the state is large and its cities comparatively small and widely separated, so that, housed in any one city, such collections would have only a minimum usefulness. An intensive cultivation of the soil, on the other hand, gives a community life in the country districts which demands intellectual food, as the large attendance of farmers' children at our universities attests.

Of first importance, too, is the fact that California's position in relation to the Panama Canal now makes it an avenue of entry for the immigrant, to whom and to whose children a wise statesmanship in the West, warned by conditions in our eastern states, would give every possible educational opportunity which may help these foreign newcomers to understand their new surroundings and to take their places among our own people. And the simplest of these means of education is by way of the universal language of the eye—exhibit, lantern slide, and moving picture.

In other words, here in California a state museum should go to the people, not wait for the people to go to it. Indeed, in crossing the continent recently and stopping at various places on the way to study what was being done in this matter, I was impressed with the ubiquitousness of traveling exhibits. Museums, scientific and artistic societies, university extension departments, government bureaus, manufacturing interests, and humanitarian organizations are sending them out; schools and clubs, cities and counties, and civic organizations are calling for them. They are so obviously here to stay and to increase, that in the very near future they must receive the serious attention of the museum worker.

The real question, indeed, is not: Shall our people have portable exhibits? but—How can the most people get the best exhibits at the least expense? And upon this follows a host of other questions: Shall the state, in its educational function, undertake this work, either sending out its own exhibits or establishing a circuit for other institutions' exhibits, or both? Can this be done best by the schools, the university extension, the state library under its traveling library system, or should there be established a state museum functioning somewhat as does the state library? Shall such portable exhibits merely apply to the school studies, or shall they be designed also for the more general education of both old and young and therefore include subjects of civic and welfare interest? Would they not then play an important part in the use of the school as a civic center, both in city and country life? These questions, while local to California in the present instance, will shortly call for consideration the country over, if we are to avoid the twin wastefulnesses of omission and duplication.

In trying to clarify some of these matters in my own mind, for the California situation calls for an exhibit plan which has been consciously and deliberately formed and which has not merely 'grown', three different state organizations, sending out exhibits over a state-wide field, have stood to me not merely for what *is* in these several states, but for interests, demands, and tendencies common to all states.

First, the Philadelphia Commercial Museum, which as a state institution, supplies exhibits, slides, and moving pictures, with accompanying lectures, to schools in Pennsylvania, adhering to the school curriculum in a general way, while greatly amplifying it.

Second, the extension division of the University of Wisconsin, which now circulates slides and moving pictures to schools, societies, clubs, and other organizations, and, declaring that "No more useful means of presenting ideas has been invented than the exhibit," plans "to offer ultimately to communities an exhibit of each of the various welfare topics to which the exhibit method of presentation is adapted." Its first exhibit, for instance, was the Child Welfare Exhibit of the American Association for the Prevention of Infant Mortality, and if our observation of San Francisco's Exposition revealed nothing else it would show how large a place subjects of social, civic, and educational interest hold in the public mind and how illuminatingly they can be taught through the exhibit.

Third, in still another mid-western state, Minnesota, a State Art Commission maintains an exhibit of paintings, sculpture, and handicrafts at the State Fair; sends this exhibit in whole or in part to different cities in the state; keeps constantly on the move two exhibits, one of industrial and the other of school art work; sends exhibits to farmers' clubs; circulates a prize design for a model Minnesota farm house, whose working plans it sells at a nominal price; and fosters, even to the extent of acting as permanent exhibitor and sales agent, infant artistic industries in the state.

Here then, in reality we have three types of traveling museum, active in three different states: (1) a school museum of geography, natural science, commerce and industry; (2) a museum of applied science; and (3) a museum of fine and applied art—types of museums already established in stationary form but breaking new ground in the field of established traveling exhibits, state-wide in reach.

If we further include within this field of exhibits the popular scientific work in botany, mineralogy, etc., of so many museums, and industrial work such as the wireless telegraphy at the Brooklyn Children's Museum, and the exhibit of the state's clay, its uses and handling, given by the Newark (N. J.) Museum last winter, we have covered in visual teaching form a large part of the field of popular thinking today. And all of them are needful as presenting at least the raw materials, the unflinching acceptance of facts, and the habit of analytic observation, out of which the human creature must weave his adjustment to the complexities of modern life if he is to escape mutilation or dwarfing at its hands.

If the problem of organizing by the state such exhibit activities as are suggested above, in order that they may go out democratically to the people, seems staggering, it yet requires no gift of prophecy to see that sheer efficiency (such, for instance, as characterizes the economics of big business) will soon make necessary at least a very close cooperation of organizations to manage the exhibit work demanded by the times.

Certain limitations of the field to be covered by any such state organization or organizations are plain to be seen. Such state exhibits, for instance, would not be designed to appeal to specialists, but, while exact, would be simple and popular in character. Individual school exhibits, too, like those of St. Louis, applying to a definite lesson scheduled for a very definite time, are also, I believe, a different problem, coming under another category, and requiring a smaller unit than a whole state for their organization.

A state's traveling exhibits, then, would be designed to illustrate the school subjects in a more general way or according to large underlying principles, to keep alert in children the questioning, observing eye, to relate the studies of the schoolroom to life itself, to interpret with sympathy and dignity the lives of men and women wherever they live and the work of their hands and heads, and to help the boy and girl to find their places in the world. Further, such state exhibits (if extended in scope to cover the needs of university extension and community social center) should help to solve the community's problems and to increase its people's vigor, enjoyment, and intelligence.

Fortunately for us in California, as you will admit, many of the questions of organization, at least, can wait—must wait, indeed—until the convening of our legislature in 1917. We are faced by the urgent fact, however, that we must collect the material for such state exhibits as we desire from the Exposition before its close in December of this present year, or lose such an opportunity as we shall sigh for in vain in that inevitable future which will call for such forms of education for the masses of the people.

For practically all the popular types of exhibits the Exposition provides a wealth of material, vast quantities of which would doubtless be cordially given for the state's use if sought in time, and that without unhappy conflict with other museums in the state seeking specific exhibits. On the other hand, the request of the state would doubtless be influential in getting many exhibits not otherwise obtainable but gladly given if promised a use. Keen as is the desire among a group of interested people to get this material, methods by which we can act in the matter are not clear, our local museum workers are few, and an understanding of the educational uses of museums is not developed in the state. You can imagine, then, with what interest and what thanks we would greet any suggestions and advice from such a body of experts as make up the American Association of Museums as to the most practicable aims, forms of organization, and modes of work in such a system of state exhibits.

As to the collection of material, we have already had suggestions from two men prominent in museum life in America. One of them warned: "Select, select. Don't let things be dumped upon you." The other exhorted: "Get everything you can lay your hands on"

President Farrington.—"Any discussion or suggestions?"

Mr. Henry L. Ward (Milwaukee Public Museum).—"The plan that has been outlined is, as far as I know, unique. It is a broadening and enlargement of what is done successfully in a smaller way by various museums. It is outside the province of our museums as ordinarily conceived to do this sort of thing, but it seems to me there is no reason at all why it cannot be done upon a different foundation from that on which the museums work. I feel that there is no question but that this is an excellent idea, and I hope this Association may be able, through its influence and advice, to help carry it out."

Secretary Rea.—"I would move you that Miss Pollok's plan be referred to the Council for further consideration in the hope that we may be able to assist in the development of her plans."

President Farrington.—"It is moved and seconded that Miss Pollok's plan be referred to the Council for further consideration and report to the Association. Are there any remarks?"

Prof. Junius Henderson (*University of Colorado Museum*).—"I might suggest a little addition to Miss Pollok's plan. Many museums have material of certain kinds in such quantities that they could easily afford to send it out to the various parts of their states as permanent exhibits. For instance, local fossils are quite different from bird and mammal collections, in that it does not take much time or experience to prepare them for exhibition. As an illustration, the state geological survey in Colorado is practically a department of the state university, because its collections are deposited at the university and the professor of geology in the university is also the state geologist. He has gotten together large quantities of material in ordinary survey work, and without much expense has sent out sets of all the common minerals and all the common rocks of the state, properly labeled, to any high school that would agree to prepare permanent display cabinets for them and to maintain them in good condition. The university museum has done the same thing to some extent by furnishing collections of common mollusks of the United States. Wherever we have large quantities, instead of sending them as traveling exhibits, we send them to schools for permanent use. We have also sent them to libraries or to any institutions that really want them and are willing to take care of them. The dividing line between traveling exhibits and permanent exhibits would be the question of expense. It would be cheaper to send a permanent display of some kinds of material than to send the same display every three or four years. It would be simply a question which way it can be done to best advantage."

Secretary Rea.—"I think it not merely a question of economy; it is a question of psychology. There is a marked difference between the exhibit which goes into the school and stays in the corner for five years and the exhibit which comes by express and is taken away again in a day, or a week, or a month. Teachers change frequently. The new teacher finds a cabinet in the corner with a little dust on it and may never bother to open it, although her predecessor may have used it regularly. Later, another teacher may pick it up and use it, but you never know whether your material is working until you send an inspector around. The arrival of the exhibit in response to request is undoubtedly a big stimulus to both teachers and pupils. The very fact that the exhibit can be used only a short time and must be sent back makes its coming an event. While it is away, they are planning for another.

"The practice of museums has varied in this matter. Dr. Wilson has been establishing permanent museums in schools in Pennsylvania and has certainly done a very fine work, but his reason for making permanent exhibits I never have been able to understand. He says the first traveling exhibit he sent out was so highly regarded that he could not get it away from the school. It seems to me I should have taken it away just to keep up the excitement which it caused. I believe that the traveling exhibit produces a better psychological effect."

Mr. Ward.—"I thoroughly agree with what Mr. Rea says. I think the history of these exhibits bears out his point all along the line. It was the experience of the American Museum of Natural History that where the collections were given to the schools their very existence was unknown in a few years. I found the same true in Milwaukee. Specimens which had been loaned were not known to be in existence in the schools until our records proved that they must be there. Then they were found and returned to the museum."

Mr. Edward L. Burchard (Civics Extension Committee, Chicago).—"I have been working from the school end of this subject for a number of years in Chicago. I am satisfied that it is highly important that the children themselves prepare some of the local exhibit material in conjunction with the traveling or rotary exhibits."

Mr. Henry R. Howland (Buffalo Society of Natural Sciences).—"I heartily agree with Mr. Rea that traveling exhibits should be very active in their movements. It is well known to most of us here, except perhaps to some of our friends on the Pacific Coast, that the Buffalo system of handling assignments of exhibits is unique in one respect. I think it is the only institution of its kind in which the educational work is directly correlated with the educational work of a great city. Instead of tentatively offering something to the pupils, the museum work for many years has been made a part of the public school system of the city. We are proposing to furnish, if the pupils are sent to us systematically, all the necessary apparatus and materials and a proper instructor.

"At the beginning of every term, the superintendent of public instruction sends out to each school principal a schedule stating when each of his grades is to come to us, and so every morning and every afternoon of the school year our lecture rooms or classrooms are filled with these public school children to the extent of about 30,000 every year.

"In addition to this we send out traveling exhibits to all the schools. These exhibits are directly related to their work. For instance, in the schedules prepared for the schools each year, the board of regents names twelve birds that are to form the particular subject of study for the year. To meet that requirement we provide fifteen sets of those twelve birds, and they are circulated systematically so that each school has a set for a certain time. The next year twelve other birds are named and exhibits are prepared in the same way. The former ones also circulate, so we have a very large series of these traveling exhibits in constant use. All of this is supplemental to the regular work in our own building."

Mr. Herbert E. Sargent of the Kent Scientific Museum in Grand Rapids reported that his museum has exhibits, especially of birds, available for school use upon request and that during the past year the cooperation of the school board had been obtained in providing an automobile to circulate them among the schools on a definite schedule. It is expected that this work will be extended next year. Mr. Sargent found that the use of exhibits in the schools stimulated the attendance of classes at the museum.

The discussion of the motion to refer Miss Pollok's plan to the Council was closed at this point and the motion was passed.

The Association then adjourned and proceeded to Golden Gate Park, where it was tendered a luncheon by the San Francisco Park Commissioners.

SESSION OF TUESDAY, JULY 6

Afternoon

The meeting was called to order by President Farrington at 2.30 p.m. at the Museum of Anthropology of the University of California.

President Farrington.—"Mention was made this morning of the great loss sustained by the Association in the death of Mr. French, director of the Art Institute of Chicago. It seems desirable in view of his special interest in the Association, and of the fact that he was a former president and always a prominent member, that we should have some more extended account of him. Mr. Newton H. Carpenter of the Art Institute of Chicago was for many years associated with him and will give us an account of Mr. French's life."

Mr. Newton H. Carpenter (Art Institute of Chicago).—"Mr. William Merchant Richardson French was born in Exeter, N. H., October 1, 1843. He was of an old and prominent New England family, including among its members Daniel Webster and John Greenleaf Whittier. He lived for many years in Concord, Mass., surrounded by many distinguished people, among whom were Noah Webster, Louisa May Alcott, Henry David Thoreau, and Ralph Waldo Emerson.

"Reared in such unusual surroundings, he was inspired in his impressionable years with a desire for education. After graduating from Phillips Exeter Academy in November, 1860, he entered Harvard University. Upon the completion of the third year of the course he responded to the prompting of duty and enlisted for service in the great Civil War. Unfortunately, or fortunately, he did not see active service as he was among the last to volunteer. The strength of the old Puritan feeling which caused his enlistment, to fight for the principle of freedom, remained with him throughout life. It showed itself a year or more ago when a difficulty arose concerning a negro boy studying in the school of the Art Institute. Because of racial prejudice there was a cry upon the part of some of the students to have the boy expelled. There was nothing culpable that could be attributed to him, and when I asked Mr. French his attitude he said emphatically: 'I went to war for the purpose of freeing negroes, and I am not going to change my attitude now. An honorable negro student must have the same privileges in our school as a white student.' The integrity and uprightness of the Puritan, born and bred in him, remained with him always. Nothing could induce him under any circumstances to act unjustly. His whole life was filled with the desire to benefit humanity and the community in which he lived.

"After completing his college course in 1867, he came to Chicago and studied art for a short time in the old Academy of Design, out of which developed the Art Institute. He had pursued in college the studies of engineering and landscape gardening, and in his early years in Chicago he practised landscape gardening, laying out a number of the surrounding towns.

"In 1878 Mr. French became interested in the Academy of Design and in a great measure was responsible for its reorganization. He was elected its secretary in 1878, and on May 29, 1879, was made secretary when the present Art Institute was organized. Later his title was changed to that of director, and in this office he served the Art Institute until his death.

"If anyone were to ask a reason for the success of the Art Institute, I should say that much may be attributed to the fact that we have had a continuous administration of trustees and officers from the beginning, all working for the same ideals. In addition to performing all the functions of director of the institute, Mr. French did a great deal of lecturing upon art topics. This was a great stimulus in increasing the appreciation of art, not only in and around Chicago, but throughout the entire country. Our success in Chicago has also been due in a great measure to his indefatigable efforts. Nothing seemed to tire him, and nothing retarded his incessant, faithful work. He was at his desk early in the morning and worked until late at night. Mr. French is survived by his wife and two sons.

"The last duty he performed was to attend the annual meeting of the American Association of Museums in Milwaukee. We were very busy in Chicago at that time and it was difficult for him to leave. I was rather surprised that he decided to go to Milwaukee, as the meetings of the American Federation of Arts were about to convene here, and it was the time of the closing of our school year when the work was very heavy. Nevertheless, he said: 'I am going to Milwaukee for one reason. There is a feeling that the art museums throughout the country are not in sympathy with the American Association of Museums and I should like to do what I can to help bring about a closer relation between the art museums and the museums of natural history.' The day he returned the American Federation of Arts had its first meeting in the Art Institute. At luncheon that day Mr. French was taken ill, and passed away in less than two weeks. His death, on June 3, 1914, resulted from a serious internal growth, which was operated upon without success.

"I feel that in his death the Association has lost a faithful, generous, and noble member, and that the Art Institute has lost its best servant. One thought, however, is comforting; that during the seventy-one years of his life his work was above criticism. He passed away after a useful and successful career. Many men do not live out half their days. Mr. French's work will live after him, and his friends will remember him always as a Christian gentleman. They are already showing their appreciation by establishing a scholarship in the school of the Art Institute as a memorial to him, and by planning a gallery which will bear his name."

The following paper by Mr. Benj. Ives Gilman, secretary of the Museum of Fine Arts in Boston, was read in the absence of the author by the Assistant Secretary:

DR. GOODE'S THESIS AND ITS ANTITHESIS

In October, 1899, a communication to the *Boston Evening Transcript* called for more labels and other means of instruction at the Museum of Fine Arts in that city, quoting from the familiar paradox maintained by Dr. George Brown Goode, former assistant secretary of the Smithsonian Institution:[1]

> An efficient educational museum may be described as a collection of instructive labels each illustrated by a well-selected specimen.

To this communication I replied, welcoming the demand for more exegesis in our galleries, but denying the applicability of Dr. Goode's thesis to museums of fine art in another paradox:

> A museum of fine art does not exist for purposes of instruction at all but solely for purposes of enjoyment.

Its exact and trenchant terms made this new formula a hard saying. To be sure, my next sentence paraphrased the words "does not exist for purposes of instruction at all" by excluding instruction in an art museum only if held paramount to the enjoyment of its contents, and expressly admitting instruction if subordinated to that enjoyment. Nevertheless, I was misunderstood to mean that a museum of fine art had no business whatever to afford instruction, and a number of writers forthwith roundly condemned the utterance in the same newspaper and others. A second letter, explaining what we mean by the phrase "exists for" or "*raison d'être*,"—a notion which I had supposed would be familiar to all likely to read the first letter—sufficed to put an abrupt end to the discussion.

An explanation of terms in advance would have made the doctrine more acceptable.

That for which anything exists, or its *raison d'être*, is its primary intention.

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[1] Dr. G. Brown Goode: "Museum History and Museums of History," a paper read before the American Historical Association in Washington, D. C., December 26–28, 1888; reprinted in the Report of the Smithsonian Institution for 1897, Part II.

A primary intention is not an exclusive intention, but that one among a number which is given precedence over the others in any conflict on equal terms.

Education being formation, bodily or mental, the primary intention of educational exhibits is that prospective benefit in which the formative purpose reaches fulfilment.

Fine art being creation (*ποίησις*) material or immaterial, the primary intention of artistic exhibits is that immediate gratification which is the fruition of the creative purpose.

On this understanding of terms, Dr. Goode's thesis and my own antithesis may each be given its appropriate counter-statement.

Thesis. An efficient educational museum may be described as a collection of instructive labels each illustrated by a well-selected specimen.

Antithesis. An efficient museum of art may be described as a collection of enjoyable objects each interpreted by a well-devised commentary.

Again:

Thesis. An educational museum does not exist for purposes of enjoyment at all, but solely for purposes of instruction.

Antithesis. A museum of art does not exist for purposes of instruction at all, but solely for purposes of enjoyment.

These counter-statements precisely describe the primary intentions, or *raisons d'être*, of the two types of institution respectively. That of the one is instruction, that of the other enjoyment, two wholly disparate things. What this means is that an educational museum is willing to sacrifice enjoyment of its exhibits to the instruction they can furnish, if equally considerable; and a museum of art is willing to sacrifice instruction from its exhibits to the enjoyment they can furnish, if equally considerable. Of the two, the artistic definition is the older. In 1883, five years before Dr. Goode advanced his educational thesis, the trustees of the Museum of Fine Arts in Boston had formulated a view of its purposes with which my later antithesis fully agreed.

> We must assume . . . . that the museum is to be what its name expresses—a museum of the fine arts; that its primary intention is to collect and exhibit the best obtainable works of genius and skill; that the application of the fine arts to industry, and the illustration of the fine arts by archaeology are both within its province, but that neither of these is its first object.

Reference to these words of duly constituted authority would have effectually disposed of the claim that the Boston collection was an educational museum, founded for the illustration of labels. As it was, the discussion of museum purposes aroused by a new and generalized statement of the declared policy of one institution ripened a few years later into a widespread controversy over what came to be known as the aesthetic and didactic (or scientific) theories of art museum management.

Careful and acute arguments in defence of the aesthetic theory were not lacking in the wider discussion; notably in articles in the *Atlantic Monthly* and the New York *Nation* by Professor Mather.[2] On the part of museum authorities the misapprehension of the early Boston critics was renewed. In an important official document the aesthetic theory was represented as implying the entire neglect of educational considerations, and a middle course was proposed which consisted in recognizing both and leaving untouched the question of precedence on which the debate had hinged. The controversy was followed with interest in England, where the *Burlington Magazine* accorded to Boston the honor of having first undertaken a serious inquiry into museum purposes.[3] In writing from America to the same journal, Professor Mather accurately defined the issue as the question whether the museum of art "should be primarily educational in intent" or whether in its conduct "aesthetic should have preference over scholastic considerations."[4] An editorial article in the *Burlington* noted the influence of the aesthetic theory upon museum arrangement, and drew the conclusion that "to something of this nature it seems likely that the larger world-museums must approximate when they begin to be fully conscious of their purpose and function in the modern world."[5] This forecast has been verified in the recent report of Earl Curzon's Committee on National Gallery arrangement, which advocates the subordinate installation of pictures of minor artistic value in a manner to be accessible to students and available for loan or temporary exhibition.[6]

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[2] F. J. Mather, Jr.: "An Art Museum for the People," *Atlantic Monthly*, December, 1907; "A Selective Art Museum," *The Nation*, vol. 82, p. 422.

[3] *Burlington Magazine*, September, 1908, p. 319.

[4] Idem, April, 1906, p. 62.

[5] Idem, September, 1908, p. 322.

[6] Idem, May 15, 1915, p. 82.

The acceptance of the aesthetic theory may at present be assumed complete. It is not to be expected that any museum restricted to works of fine art will hereafter elect to regard and treat itself as at bottom an educational institution. But the representatives of the ascendant principle may be pardoned for feeling less relief and satisfaction over the outcome than wonderment why in the world such a to-do was made about the matter. A visitor from another planet, asked whether an institution dedicated to art ought to be managed primarily in the interests of science, would suspect the questioner of chaffing him. Yet matters are not so regulated among the adherents to Mother Earth. At the height of the Boston discussion an obituary press notice of Prince Troubetskoy, Rector of the University of Moscow, contained the news that he had "risked all his popularity by a speech made at a recent meeting of the students of the University in which he said that study should be the primary purpose of the University and that political or other agitation should be only a secondary aim." The worries occasioned by the opposition between a political ideal of university purposes and the scholastic ideal he upheld were said to have had much to do with the death of the Prince. Alas, there were also tragedies to mark the simultaneous opposition in America between the scholastic and artistic ideals of art museum purposes.

Two words in Dr. Goode's formula should warn us against the grievous injustice of condemning as a Philistine a writer so active-minded, acute, and liberal. His thesis is expressly restricted to 'educational' museums whose contents are 'specimens.' Looking further through his exposition, we come upon many plain indications that he grasped, if he did not consistently pursue, the idea of museums non-educational in type, to whose contents the term 'specimen' might not apply. He writes of "fine art collections, best to be arranged from an aesthetic standpoint, by artists;"[7] and again, of collections of artistic masterpieces as 'shrines' and 'heirlooms;'[8] and again of "many so-called museums" as in reality "permanent exhibitions."[9] Nor did he offer even his latest ideas on museum administration as finished results, but expressly as material for critical discussion. Yet the criticism he hoped for has hardly taken place. On the contrary, one telling sentence of his has been, as it were, preserved in alcohol, as a final word on the whole subject.

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[7] "Museum History and Museums of History." Report of the Smithsonian Institution for 1897, Part II, p. 76.

[8] "The Museums of the Future," Report of the Smithsonian Institution, 1897, p. 252.

[9] "The Principles of Museum Administration," Report of the Smithsonian Institution, 1897, p. 198.

What is a 'specimen?' Has the idea any opposite?

We call an object a specimen when we think of certain qualities in which it resembles other things. We call it on the other hand a unicum when we think of qualities in which it differs from any other thing. Now, nothing is absolutely unlike anything else; even a hawk and a handsaw are alike in having teeth. Nor is anything absolutely like anything else; even two peas differ in their place in the pod. Hence anything we please is always both a specimen and a unicum. It is more or less like other things, and hence a specimen; and it is always also just itself and nothing else, and hence a unicum. But although every object is at once specimen and unicum, it may be that we value it in either way more than we value it in the other; and this is the practical significance of the two words, specimen and unicum. A specimen is a thing we talk of and treat with reference to its resemblances to other things. Its value, as we say, is illustrative, residing in its abstract bearings. A unicum is a thing we talk of and treat with reference to its differences from any other thing. Its value as we say, is individual, residing in its concrete self. This is the kind of regard we feel for individuals *par excellence*, or persons. The feeling of Americans for Lincoln is not admiration for a group of qualities—for patience, acuteness, strength of purpose, kindliness, homely wit—but for these and countless other traits as they are embodied in the individual life we recall under that name. When Olivia cataloged her charms—"item, two lips, indifferent red, item, two grey eyes with lids to them, item, one neck, one chin, and so forth"—she had already divined that the Duke cared for her, not as the one woman in the world for him, but as a specimen of womanhood. Contrariwise, the passion that impels the artist is not a passion for abstract qualities but for a concrete object, limitless source of abstractions, as it grows under his hand. There is but one Venus of Melos, but one Lycidas. There is but one Moonlight Sonata of Beethoven, and but one Three Trees of Rembrandt, many as are the renditions of the one and impressions of the other. Thus we speak quite naturally of the friendship of fine art. The feeling which the artist's other half—the true beholder of his work—feels for his creation is in turn unique, like the regard we entertain toward a human being.

When therefore we apply Dr. Goode's formula to collections of fine art we find it talking nonsense, just as a formula of mathematics talks nonsense when applied to facts it does not fit. For a collection of works of art is not a collection of specimens, but a collection of their opposites, namely, unica. More precisely, our primary purpose in showing things concrete in aim is itself concrete and not abstract. In speaking of museums of art Dr. Goode's thesis must be dropped and an antithesis substituted. Their essential nature is not that of collections of abstractions illuminated for us by examples, but that of collections of concrete things introduced to us by ideas. This is the antithesis which is needed and which had been recognized from the beginning at the museum where the controversy started.

The distinction admits of many forms of statement. Museums of science aim first at abstract knowledge, museums of art at concrete satisfaction. A museum of science is a place of pleasant thought; a museum of art a place of thoughtful pleasure. A scientific museum is devoted to observations, an art museum to valuations. A collection of science is gathered primarily in the interest of the real; a collection of art primarily in the interest of the ideal. The former is a panorama of fact, the latter a paradise of fancy. In the former we learn, in the latter we admire. A museum of science is in essence a school; a museum of art in essence a temple. Minerva presides over the one, sacred to the reason; Apollo over the other, sacred to the imagination.

Thesis and antithesis follow deductively. An object of science being specimen, and an object of art unicum, in a museum of science the accompanying information is more important than the objects; in a museum of art, less. For while both are collections exemplifying human creative power, in the museum of science the creation is the general law *repre*sented by the description; in the art museum, it is the particular fact *pre*sented by the object. Thus, as Dr. Goode well said, in a museum of science, the object exists for the description; but as he was not yet ready to say, in a museum of art the relation is reversed—the description exists for the object. A museum of science is in truth a collection of labels *plus* illustrations; but a museum of art a collection of objects *plus* interpretations.

Dr. William T. Brigham (Bernice P. Bishop Museum, Honolulu).—"It seems to me that there should always be art in a scientific museum, even if science is left out of the art museum. The impression given by some of our museums is that of a jail. There are steel cases; there is not a particle of molding about the room; there is not a bit of color; it is all concrete or plaster; I feel chilled as soon as I enter.

"In the Bishop Museum we have taken great pains to make the pleasure of the visitor begin the moment he comes in. When the Hawaiian Hall was built I had the favorite vine of the Hawaiians, the maile, cast in the columns, while the capitals were decorated with the candlenuts that have been so useful to the natives through all ages. The cases were made of the most beautiful wood that grew on the Island, the koa wood, with a texture of such variety that you can see in the panels wonderful little landscapes, shore scenes, and sunsets. Some of them change as you pass by them like a changeable satin. The room is so open that five hundred people do not crowd it in the least. The seats are comfortable and abundant.

"We believe the arrangement of the contents of our cases is as important as the arrangement of a shop window. When a store pays a man $20,000 a year to dress the windows it gets its money back. A formal row of stone pounders does not produce an agreeable effect, but if they are arranged in proper relation to light and shade the visitor is attracted, even if he does not care what a stone pounder is, and learns something about them from the labels.

"One of the groups shows a native making poi. The man from whom the cast of this figure was made was shot about two years later and the group is so impressive that when the man's widow came in she said, 'Solomon looks so natural, I wish you would let me kiss him!' I said, 'Madam, you are married again, and it would not be right to your present husband, but you may kiss him through the glass.' She showed her affection by a grease spot almost as arge as a pancake.

"I think our beautiful wooden cases have the same effect as the frame of a picture. They are necessary to bring out the full beauty of the exhibits. Our visitors include some 15,000 Japanese, Chinese, and Portugese every year. Many of these people have lived in grass huts all their lives. When they visit a beautiful building like our museum they go back with a desire to make their own houses look as well as possible and to keep them clean. The museum has been a means of making them a different people and those that come in now are very different from what they used to be. When the museum was first opened the visitors stole the labels from the exhibits and carried away everything they could get their hands on, just to show that they had been to the museum. Their attitude has now changed entirely however, and we have no policemen and we need none."

Dr. James E. Talmage (*Deseret Museum, Salt Lake City*).—"I do not remember attending any session of the American Association of Museums in which the difference between art museums and scientific museums has not been mentioned and sometimes been the subject of debate. I agree with Dr. Brigham that there cannot be any fundamental distinction such as we have tried artificially to make between these two classes of institutions. The generalization that has been brought forth in Mr. Gilman's paper, and to which I had the pleasure of listening when it was made by him in person, that scientific museums are designed primarily to instruct, and art museums primarily to please, is a real and a useful one if we do not carry it too far, but I believe that the proper kind of pleasing is educative. Therefore, anything that gives to man that kind of pleasure, that lifts his soul to the contemplation of the higher things, is as truly educative as the fossil or the mounted specimen in the scientific museum could possibly be.

"There are many types of beauty. Beauty consists in more than that which appeals to the eye and which may arouse the imagination through that appeal. The scientists know what beauty is in the demonstration of law and in the discovery of purpose, and I doubt if any lover of art has experienced greater enjoyment of the true kind in contemplating a masterpiece on canvas or in stone, than did the botanist when he discovered the purposes of the color streaks in the pansy, the fine hairs pointing downward to the nectary in which nature has stored the drop of syrup to direct the proboscis of the bee which shall be thrust directly into the nectary, thereby securing the pollen which will be carried to the next flower and so perpetuate the species.

"I do not believe that we are going to gain anything by crossing swords on the difference between museums of art and museums of science. They have to be housed differently; the specimens, to use the word in its generic sense, have to be mounted differently; the lighting should not be precisely the same for both. But I believe that we may learn through each; that while fine pictures and statuary may please, they may also instruct, elevate, and educate; and that the specimens we speak of as being of a scientific character may also please as well as teach.

"I believe that the purpose of life is to learn to enjoy that which is best, that which is uplifting and elevating to the human soul, and that these art museums are, after all, but departments in the great museums representing human knowledge. I feel that we can apply, if we will, general rules to both, and that the American Association of Museums should include, as it rightly does include, both." (*Applause.*)

President Farrington.—"Are there any further remarks? Perhaps it is hardly fair to Mr. Gilman to discuss this paper in his absence. It would be a surprise to me if friends of art should entirely disclaim any idea of education. As Dr. Talmage has said, you can hardly avoid education even if you would. The aphorism of Dr. Goode, that 'a museum is a collection of labels, illustrated by specimens,' was at one time very widely accepted as a pregnant and poignant expression of the purpose of a museum. I think we have grown considerably away from this idea. It probably expressed the needs of the time when it was uttered, but at present I think we are learning more of the value and importance of specimens. I have often observed people interested in a collection that was not labeled. This does not prove that a collection should not be labeled, but some times an element of interest enters into finding out what a collection is. It may be just as well to seek to arouse this curiosity in a visitor; to let him study the exhibit himself, and to make it not too easy for him to get the lesson out of it. Any work we can do in that way seems to be of an educational nature, and while I would, of course, have labels, I think we may easily overweight their importance."

Miss Margaret T. Jackson, director's assistant in the Minneapolis Institute of Arts, then presented the following paper:

THE TREATMENT OF WALLS IN GALLERIES FOR PAINTINGS

The attention of museum men has long been focused on the question of backgrounds. Many treatises have been written on this subject and much study has been given in the attempt to attain perfection. Until now, however, perfection has been like a will-o-the-wisp just out of reach, and probably no museum man has thought he had attained it on one day without waking up the next to find it had eluded him. To this very dissatisfaction, however, is due our progress.

Let us agree that a background must be the complement of the pictures hung upon it in color, texture, and pattern. With this in mind, let us consider first the use of textiles for backgrounds. Probably burlap has been more used than any other material in our galleries, partly because of its loose texture and partly because of its cheapness. The experiment of painting the walls under the burlap has been tried in different places. This gives a varied effect that makes the material much more attractive, and burlap should never be used unless some such expedient is resorted to, as the dead tone of the natural color is monotonous. The green burlap so often used fades atrociously, as many of us know to our sorrow. This fabric, like all coarse materials of this character, collects dust very rapidly and is hard to clean. It may, however, be painted over to freshen it when it becomes soiled. In figuring the cost of burlap it must be taken into consideration that the price of hanging is the same for a cheap material as for an expensive one, and, therefore, the initial cost will differ merely in the price of the goods. Fortunately, there are many rich men interested in our museums who are glad to dig deep into their pockets and bring out the difference in price. Certain other inexpensive materials are on the market such as homespun, monk's cloth, friar's cloth, etc. These are all of a closer weave than burlap and are less suggestive of potato sacks. The homespun makes a particularly good background for prints. Some of the sun-dure materials are also attractive in color and weave, although rather too thin for wall coverings. In the more expensive materials there are some good jutes on the market which come in pale grays and fawn color and which may be dyed according to one's taste. Some of these are very attractive, especially where the pattern is small and inconspicuous.

Pattern is a very serious consideration. A certain amount of inequality in the weave of the material enhances its value as a background because the light and shade that comes with an uneven surface makes the color less constant, and, therefore, adapted to a larger number of pictures, but where the pattern is too large it becomes obtrusive and we find ourselves thinking of the landscape wallpaper used by our colonial ancestors, which was never meant as a background but which, on the contrary, decorated the house without the need of pictures. Velvet makes an interesting wall covering, but it is a great care, especially if exhibitions are to be changed frequently. Should the museum director choose a velvet, he must be careful that the pile is short, as otherwise the marks made by the frames will be very conspicuous. Also, a velvet with a short pile is easier to keep clean, as the dust clings to a long pile and is almost impossible to brush off.

Among the most attractive backgrounds, especially for ancient pictures, are the reproductions of the old Italian or French brocades. These reproductions are comparatively inexpensive and may be had from the manufacturers in Italy. If carefully chosen as to color and pattern they are satisfactory, well woven, and durable. They may be had in linen, silk and cotton, or pure silk as desired. Where it is possible, these materials should be bought directly of the Italian manufacturers, as our American buyers procure their stock in France, where they pay fancy prices for materials woven in Italy. This statement is made not on my own authority alone but on the authority of the buyer for one of the large wholesale firms in New York.

Another background which has been used successfully is wooden paneling such as may be seen in the rooms containing the German and Italian primitives in the Evans Wing of the Boston Museum. Here the wood is oak, slightly stained but not polished. In the central cupola room of the Dresden Pinakothek, a very elaborate paneling of some dark wood, perhaps walnut, has been used. This is darker in color and forms an admirable foil for the gold of the frames and the jewel-like colors of the wonderful paintings shown there.

An entirely different treatment may be seen in the Minneapolis Museum. Here the walls have been finished with rough plaster and tinted with water color. The surface thus obtained has many advantages. The initial cost is low and the matter of changing an unsatisfactory color or renewing the finish requires but little time or expense.

In the long tapestry gallery connecting the Evans Wing with the main building of the Boston Museum the walls have been lined with blocks of travertine brought from the neighborhood of Rome. The effect is delightful. There is a certain warmth of tone in the travertine and an unevenness of surface that make a beautiful background for the tapestries hung in this hall. A similar use of stone may be seen in one of the galleries of the Kaiser Friedrich Museum in Berlin.

When we come to the question of color, there is so much diversity of opinion and of nomenclature that it becomes very difficult to generalize. Careful study should be made of the paintings that are to go in any one room before the color is selected. Where the collection is growing rapidly, certain rooms should be devoted to certain schools, and a study should be made of each school with a view to determining the color which will be most successful as a background for that school. In this connection, the environment for which the pictures were painted should be considered, as important hints may be obtained from such a study. One European gallery made the tremendous mistake of thinking that a color which did not appear in any of the pictures would be the most successful background. The room I have in mind contains paintings by Rubens, Snyders, and other Flemish artists of that time in whose pictures red predominates. The color chosen for the walls was also a red but one which did not appear in any of the paintings. The effect was terrible. Almost any of the reds used in the pictures would have been better. At the inaugural exhibition of the Minneapolis Institute of Arts one room containing the French Impressionists was tinted with a neutral color which may, perhaps, be described as a gray warmed by a small amount of red violet. When the pictures, which came from different parts of the country, were hung in this room, it was found that every one of them had this tone somewhere in the picture, and I venture to believe that no roomful of French Impressionists ever looked better anywhere. There are, in a certain German museum, two rooms which will serve as illustrations of the good and the bad in the use of daring colors for backgrounds. One is a room hung with a cerise satin which has a blinding and dazzling effect upon the eyes of the visitor. No one who has seen it could ever forget it. To make the effect worse, the room is top-lighted so that the glare upon the lustrous surface of the satin adds to the brilliancy of the color and one finds that after looking at one or two of the really beautiful objects displayed in the room one is seeing green spots and feeling so faint that one moves quickly away. Equally daring, but far more successful, is the use of color in the second room, where a soft violet about the color of the little wild violets that grow in the woods in the spring has been used as a background for some XVIII century Italian paintings, Canalettos, Guardis, etc. Never have I seen pictures of this period appear to such wonderful advantage. They are brilliant and luminous in color, a marked contrast to the usual dusty drab one associates with this school.

Considering the success with which reduced white has been used in the rooms of the German primitives in the Alte Pinakothek in Munich, it is rather remarkable that this color has not been more in vogue in this country. One of the few instances that I recall where it has been successfully used is in the rooms devoted to the study series of paintings in the Evans Wing of the Boston Museum. Here the rough plaster has been left in its natural color, which is a reduced white. Another room where this color has been used is the gallery for paintings in the Fogg Museum, Cambridge, but here the north light makes the color appear somewhat cold.

Red is beginning to be used again in some of our galleries. Some twenty years ago when Corrado Ricci was doing over the Brera, in Milan, he used a green which has since become known among museum men as 'Ricci green.' This was so much in vogue at one time and it was considered so perfect as a background that almost all of the older museums became imbued with the desire to tear off the beef blood red in fashion fifty years ago and be up-to-date by using what they supposed to be the 'Ricci green.' The original color in the Brera has faded to such an extent now that almost any shade of green may be called 'Ricci green' with impunity. Undoubtedly certain shades of green are more becoming to paintings than almost any shade of red, but it is impossible to generalize in regard to color. A very important point, however, that should be taken into consideration is the fact that to the average museum visitor a series of galleries in which the background colors are made to harmonize from room to room is much less tiresome than a similar series of rooms in which the backgrounds are all of the same color. In the Minneapolis Institute of Arts great care was taken to select colors which would harmonize in this way from gallery to gallery and where the same coloring is repeated it is not repeated in any two consecutive galleries.

It is, perhaps, worth while to say something here in regard to the tinting of walls in this museum. The Minneapolis museum was not the first to use a spatter, but it has been more successful in the use of this process than any other museum that I know. Great care and much study was spent in selecting the colors to be used and they are almost without exception both interesting and novel. In each room three tints were used; the first a solid foundation color, the second a large spatter, and the third a very fine spatter. In this way a vibration of tone was obtained which gives both greater depth and a more interesting surface. One of the most successful rooms is that devoted to the Gothic period where a deep Gothic blue acts as a splendid background for the lovely tapestries of this period which hang in the room.

A word of warning is, perhaps, not amiss in regard to samples. Any color depends so largely on the light in the room in which it is to be used that it should be tried out with a large sample actually on the walls of the room before any decision is made in regard to it. Wherever possible, also, one of the pictures which is to go in the room should be placed against the color to try the effect. I have in my possession a small sample of a certain wall covering which has been used recently in this country which is a most lovely green, seen in the sample, but on the walls of the room in which it is hung it appears much too brilliant. I have here another sample of a green which in this small piece looks rather unattractive, yet as a background it is one of the best I know. In the use of textiles for wall coverings many museum directors have been disappointed to find that the color faded very rapidly after being put on the wall. To offset any such misfortune, it is only necessary to cut off a small piece of the material to be used and to expose it to strong sunlight for a week or two. By comparing this small piece with the larger sample a tendency to fade can easily be discovered.

If after spending hours, days, or even weeks in preparing your background you find that the ungrateful public pays no heed to the charming effect you have achieved, you will know that you have come as near perfection as it is given to any of us to reach, as the perfect background does not of itself attract attention but modestly throws into prominence the beauty of the objects displayed upon it.

President Farrington.—"Are there any remarks on Miss Jackson's paper?"

Mrs. Herman J. Hall (*Art Institute of Chicago*).—"I would like to emphasize Miss Jackson's remarks in connection with color. I have found from personal experience that people look best against a background of blue. If you would have your friends look well, put this color on the wall and you will find that everyone's complexion has improved. If this is true for people it will be true for pictures. I have tried it in small galleries and have found it the most satisfactory background."

Miss Theodora Pollok.—"I wonder if Miss Jackson will let us see her samples. I am sorry to say that when I passed through the Minneapolis Institute of Arts I was so deeply impressed with the beauty of the walls that I could scarcely see the things that were against them." (*Laughter.*)

Mr. Newton H. Carpenter (*Art Institute of Chicago*).—"This subject of wall coverings is always interesting. We once gave free rein to a person who wished to fix up one of our rooms. He first put a little color in the ceiling light, next a very brilliant and very expensive red plush velvet on the walls, a very fine marble at the base, and then a most beautiful mosaic floor with a large circle around the center. Some people said they felt like stepping over it when they went in. It was probably the finest decorated picture gallery in the United States but it was absolutely and totally worthless for the purposes for which it was intended. Visitors would have the same experience that Miss Pollok has just mentioned. They would say that the room is beautiful, the ceiling light fine, the Tiffany glass very elegant, the walls very rich, the marble exquisite, and the floor simply wonderful. If you asked them what they thought of the pictures they would say, 'Why I didn't see any pictures there.' You would have to take them back and show them the pictures. Pictures do not need anything of that kind to help them out and the wall coverings should be such as not to attract attention.

"Another gentleman presented us with two galleries and we allowed him also to decorate them. When he had finished they were simply exquisite for their purpose. When you visited them you never saw the floor or walls and you came away with a vivid impression of the pictures only.

"Sometimes we discover a good thing accidentally. Eight or ten years ago we had to finish very quickly nine new galleries. They were of the plainest fire-proof construction. In order to prepare the walls in the minimum time we pasted asbestos paper over them and then proposed to set our janitors to work painting, but the union men who were also working in the building objected. We told them that these were janitors, not painters, but they said anyone who used a brush was a painter. Our janitor, who seems to be equal to any occasion, said 'Suppose I use a sponge?' The union men said that would be all right, so we put our colors on with a sponge. It was one of the greatest discoveries in America. The spatter work Miss Jackson describes in Minneapolis is only a rough copy of what we did. The beauty of our process is this: If in hanging the pictures we find that the walls have not enough red or blue or gray the janitor can mix up a little more color and change the walls with very little work and without any particular experience. It is the most inexpensive scheme we ever discovered and one of the most satisfactory. I was surprised at the number of people who inquired how the effect was produced.

"We have succeeded recently in finding burlap or canvas the width of the entire wall from the picture rail to the top. This we wind around the room. Then the janitor discovered another scheme. He dips a rag in kalsomine and stands off and throws it at the wall. If you will come and see the effect you will think it another of the greatest discoveries of the age."

Mr. E. W. Gifford of the Museum of Anthropology then gave an informal account of the temporary equipment of the museum, where it has been necessary to obtain as much case room as possible with a minimum expenditure of money.

The Association then adjourned for an inspection of the new building of the California Academy of Sciences, after which it assembled at the Golden Gate Park Memorial Museum, where the collections were viewed, and the curator, Prof. George H. Barron, delivered an address explanatory of the Pioneer Room.

SESSION OF TUESDAY, JULY 6

Evening

The meeting was called to order at 8.30 p.m. in the San Francisco Institute of Art. President Oliver C. Farrington, curator of geology in the Field Museum of Natural History, delivered the presidential address as follows:

THE RISE OF NATURAL HISTORY MUSEUMS

Whence they come and whither they go are inquiries that should be made from time to time by all institutions in order that they may profit by the experiences of the past and survey the way of the future. Owing to obvious limitations, I shall attempt to sketch the growth of but a single division of the museums represented in this Association, leaving to others the rounding out of the inquiry if it shall ever seem to them desirable to do so.

A desire to preserve objects of nature which aroused special interest or possessed unusual powers may be presumed to have been an instinct of the earliest man. We may imagine the cave man storing in his cave the bright gem, or curious seed, or rare animal skin which attracted his attention and, perchance, urging upon his descendants the desirability of preserving it. Such instincts are undoubtedly possessed by barbarous tribes. But such hoards have no permanent value or maintenance as long as there is a lack of a fixed habitation or of a social organization sufficiently strong to pass them from one generation to another. Hence, it may be noted in passing, an essential condition for the existence of museums is a sufficiently civilized and permanent state of society to preserve objects from generation to generation.

In the life of the ancient Egyptians conditions making toward the preservation of natural objects doubtless became more favorable than had previously been the case, since there are preserved to us from their time many objects of their art which were originally objects of nature. While material which they prized now occupies an honored place in our museums and their civilization was instrumental in preserving it to us, there is no evidence, so far as I know, that they undertook the collection and preservation of natural objects for their own sake.

The Greeks gave us the word *museum*, but that they ever established a museum in the modern sense seems very unlikely. Whatever their practice may have been regarding the preservation and exhibition of works of art, it seems quite certain that they carried on little, if any, effort of this kind with regard to nature. Alexander the Great, about 325 B.C., is said to have gathered together many animals and plants in order that they might be studied by Aristotle, 'the father of natural history,' but so far as we know no effort was made to preserve these specimens to later times. The first record of placing natural history specimens on exhibition is said to be that made when Hanno, a Carthaginian, somewhat before Alexander's time, procured skins of gorillas in Africa, and put them in the temple of Astarte. We also know that the monstrous horns of wild bulls which had occasioned great devastation in Macedonia were hung in the temple of Hercules by order of King Philip.

The Romans seem like the Greeks not to have taken much interest in the preservation of natural objects, at least as far as any record has reached the present time. We know that emperors and other individuals possessed collections of statues and other works of art, and among these we find occasional mention of the preservation of so-called 'natural curiosities' such as bones of giants or peculiar human skeletons, but that any broad interest in nature existed which led to efforts to preserve and study its forms we have no record. Stray sources of information tell us of a crocodile, found in attempting to discover the sources of the Nile, being preserved in the temple of Isis at Cesarea, also that a large piece of the root of the cinnamon tree was kept in a golden vessel in one of the temples at Rome. Pliny relates that the bones of a sea monster, probably a whale, "to which Andromeda was exposed," were preserved at Joppa and afterwards brought to Rome. Suetonius says that the Emperor Augustus had a collection of natural curiosities in his palace.

One reason suggested by Beckmann for the rarity of collections of natural objects among ancient peoples was the lack of knowledge of satisfactory means of preserving such as were perishable. The preservative virtues of what was then called 'spirit of wine' but which we now know as alcohol seem to have been but little known, and only immersion in salt brine or a covering with wax or honey served at that time for the preservation of perishable materials.

The great institute of Alexandria in Egypt, founded in the third century B.C., is generally spoken of as being the first natural history museum of antiquity, but while this had botanical and zoological gardens, there is little reason to suppose that it was a museum of nature in the modern sense. The name museum in that institution was applied to a portion set apart for the study of sciences, and indicated rather a place of study than one for exhibition of objects.

From the fourth to the seventeenth century A.D., according to Goode, the term museum dropped out of use and the idea for which it stood must also have been dormant, yet even in those times many monasteries had collections of curiosities. In the treasuries of churches also were often preserved curiosities and rarities brought home by pilgrims or travelers. "In some churches," we are told, "eggs of ostriches and other things of like kind, which cause admiration and which are rarely seen, are accustomed to be suspended, that by their means the people may be drawn to church and have their minds the more affected." A few such objects may still be seen in churches. Thus, according to Murray, in the porch of the Cathedral of Merseburg, on the Saale, there is a large carapace of a tortoise. There are 'antediluvian' bones in the church of St. Kilian at Heilbronn, and in the old Romanesque church of Alpirsbach, in the Black Forest. One hangs in the western entrance of the Cathedral of Halberstadt, and used to be passed off as one of the bones of Jonah's whale; while on the wall opposite hangs what was called a thunderbolt—or what we would now call a stone axe—kept as a protection against drought and lightning. In the choir of the parish church at Ensisheim, in Upper Alsace, there is a portion of a meteorite which fell in 1492. In the parish church of Petty, on the Moray Frith, the bones of a giant known as 'Little John' were preserved in the sixteenth century. Giants' bones were also preserved in the Cathedral of Vienna. Boccaccio records that in his day in the church of the Annunciation in Trapani, in Sicily, three teeth, weighing a hundred ounces, of an enormous giant of 200 cubits in height, were hung up on a wire. From such preservations as these it was but a step to collections made by travelers and maintained for their own interest and to the gradual accumulation of natural objects under the roofs of colleges and universities. Of such collections there were several of which we have record in the seventeenth century.

Certain natural objects seemed at this time to be especially desired. These were: (1) the horn of a unicorn, a fabulous animal which someone was always just on the point of seeing but never did; (2) Egyptian mummies, whole if possible but if not in part; (3) bones of giants, now known to be fossil elephants' bones but then regarded as human; (4) human skulls, especially those of criminals; (5) horns of deer or elk; (6) objects known as *cerauniae*, then thought to be thunderbolts but now known to be stone axes; (7) objects called *glossopetrae*, then regarded as serpents' tongues, now known to be arrow heads or fossil sharks' teeth. Nearly all of these objects were believed to have great medicinal virtue and moreover, by the mystery of their origin, appealed to the belief in the miraculous which characterized the time.

A traveler's description of the contents of the museum of Ludovico Settala, a physician of Milan, Italy, gives an idea of how many such museums were filled in the seventeenth century. "Here we observ'd," he says, "several sorts of very ingenious machines contriv'd for finding out the Perpetual Motion, looking glasses of all sorts, dials, musical instruments, books, medals, curious keys and locks, fruits, stones, minerals, animals; a prodigious variety of shells; and a great piece of cloth made of asbestos." The collection of the University of Leyden, according to a catalog published in 1691, contained among other things "a Norway house, built of beams without mortar or stone; shoes and sandals from Russia, Siam and Egypt; Chinese songs, paper, books; Egyptian mummies and idols; an hand of a Meermaide; a mushroom above 100 years old; a thunder-bolt and a 'mallet or hammer' which the label said 'the savages in New York still kill with.' "

In the arrangement of these museums decorative effects were sought after rather than any scientific order. The arrangement of the Wormian Museum, which was one of the most celebrated museums of the seventeenth century, probably typifies that of many. "On the floor and on two shelves above it," we are told, "were boxes and trays containing small objects, beginning with earths and salts and proceeding in order through the mineral, vegetable and animal kingdoms, till they ended with parts of animals. Interspersed amongst these there was a miscellaneous assemblage of statuary, antiquities, birds, fish, bones, corals and petrifactions. The upper part of the wall was covered with tortoises, crocodiles, lizards, skeletons, spears, lances, arrows, paddles and costumes from Greenland. Between the windows hung horns, antlers and head of deer and other animals; underneath on the floor lay vertebrae of a whale. From the roof were suspended a great polar bear, a shark and other fish, various birds and an Esquimaux kayak." The anatomical collection at Dresden is said to have been arranged like a pleasure garden, skeletons being interwoven with branches of trees in the form of hedges so as to form vistas. In the anatomical museum of Frederick Ruysch at Amsterdam, plants disposed in nosegays, and shells arranged in figures were mixed with skeletons of animals and anatomical preparations. The so-called decoration of a cabinet or museum was also deemed of much importance in these times. The tops of the presses or cases, we are told, were frequently ornamented with shells of great size, wasp nests, rhinoceros horns, an elephant's trunk, the horn of a unicorn, urns and busts of alabaster, jasper, marble, porphyry, or serpentine. Here likewise were placed figures of antique bronze, large lithophytes, animals made of shell, gourds cut in two; little trunks of bark, books made of the palm tree, globes, spheres, etc. Even of the British Museum as late as 1786 a visitor said that "it contains many collections in natural history; but, with the exception of some fish in a small apartment, which are begun to be classed, nothing is in order, everything is out of place; and this assemblage appears rather an immense magazine in which things have been thrown at random than a scientific collection destined to instruct and honor a nation." Amid such chaos it is little to be wondered at that the great naturalists of the time, such as Linnaeus, Cuvier, and Buffon, set themselves above all things to the task of bringing about order, so that system and systematists ruled the eighteenth and nineteenth centuries till their dominance became in turn so great that a revolt appeared which we have witnessed in our own time. The chaotic condition of these centuries was in part the result of the times. The discovery of the New World had brought a flood of new material to the Old, and inquiry and interest were active on every hand. The acquisition of new material was deemed more important than the study of that already possessed. Moreover, it was still the age of wonder, and the exceptional things were sought after instead of the common things. The wonder excited by an object of course depended largely upon the interpretation given it, so that many things which seem common and ordinary enough to us today were at that time deemed of great interest. Again the museums had in but few cases attained to the dignity of public support, so that those who were in charge of them had to depend upon fees for most of their maintenance. This led to a tendency to procure and exhibit material possessing some morbid or vulgar interest in order that greater attendance might be secured and larger remuneration thus obtained.

"While an enormous quantity of material was collected in these museums," says Murray,[1] "it was only gradually that its real value began to be appreciated, and that it was turned to proper account. The early museums often had certain definite aims, and were intended to be exponents of science; but natural history was hampered by traditional opinions, and physical science was over-weighted by metaphysics. Everything was explained, but the explanations had always to be in accord with accepted doctrines of logic and metaphysics, which had themselves in turn to square with theology. The wonders of nature had an extraordinary fascination for men of science, who were constantly on the lookout for them. Any variation of the ordinary type of the common object was eagerly sought after, and the more extraordinary it was the greater was its attraction. Hence museums had a tendency to represent the abnormal rather than the normal, what was rare rather than what was common. A museum was a collection of curiosities, and although the word 'curiosity' in its older sense had a broader meaning than at present, there was generally implied in it the idea of strangeness or rarity. The object to which it was applied was to be regarded as worthy of being looked at because it was odd or rare."

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[1] *Museums, their history and their use,* p. 186.

Among early museums which have survived until our own day the history of the Ashmolean Museum established at Oxford in 1682 may be considered typical. This had its origin in material gathered by John Tradescant and his son earlier in the century. Their collections were extensive and included materials illustrating not only natural history but industrial art and coins. Their collecting seems to have been of an indiscriminate character and without definite classification. These collections were acquired by Elias Ashmole in 1659 and passed by gift to the University of Oxford in 1682. "On the fifteenth day of May, 1679," we are told, "the first stone of that stately fabric, afterward called Ashmole's Museum, was laid on the west side of the theatre, and being finished by the beginning of March, 1682, there was put therein, on the twentieth day of the same month, about 12 cart loads of rarities sent to Oxon by Mr. Ashmole; which, being fixed in their proper places by Rob. Plot, LL.D.. who before had been intrusted with the custody of the said museum, were first of all publicly viewed on the twenty-first of May following by his royal highness James Duke of York, his royal consort Josepha Maria, Princess Anne and their attendants, and on the twenty-fourth of the same month by the doctors and masters of the university." Thus rapidity of installation and difficulty of access seem to have characterized this museum. While the museum was evidently invested with a certain amount of importance, it could hardly have been highly appreciated at the time. Edward Young called it "Ashmole's baby house," and the curator, though a man of much learning, received no salary.

Some have urged that because they were derived from single collections, the early museums were as a rule confined to special lines and that museums of broader scope were a product of later development. But so far as I can judge from accounts, the early museums were usually miscellaneous in their character, and development along narrower lines has been a modern practice. Such certainly was the history of the British Museum. This originated largely from two collections, one that of Robert Hubert who had a collection "of many natural rarities" which he had gathered, according to the account, "with great industry, cost, and thirty years' travel in foreign countries."

The other, and the collection upon which the British Museum was chiefly based, was that of Sir Hans Sloane (1660–175⅔), a celebrated physician, president of the College of Physicians and of the Royal Society of England. He early commenced to form a museum, and continued to add to it without intermission until the close of his long life. In 1687 he made a voyage to Jamaica, and is said to have been the first man of learning whom the love of science alone led to that, then distant, part of the globe. He brought home with him not fewer than 800 different species of plants, and this was the first large accession to his collection. His museum and library were said to have cost upward of £50,000, and their value, according to his own and other accounts, to have been £80,000. At his death he bequeathed his whole collection to the British nation on condition that £20,000 should be paid to his family. The terms in which the bequest was couched showed a keen appreciation of the best means of making such a collection of public use.

"Whereas from my youth" the will read, "I have been a great observer and admirer of the wonderful power, wisdom, and contrivance of the Almighty God appearing in the works of his creation, and have gathered together . . . . books, both printed and manuscript . . . . natural and artificial curiosities, precious stones . . . . dried plants, ... and the like, ... amounting in the whole to a very great sum of money: Now, desiring very much that these things, tending many ways to the manifestation of the glory of God, ... the use and improvement of the arts and sciences and benefit of mankind, may remain together and not be separated, and that chiefly in and about the city of London, where they may by the great confluence of people be of most use, I do hereby request that . . . . [my] trustees . . . . do make their humble application to Parliament . . . . to pay . . . . £20,000 . . . . unto my executors . . . . in consideration of the said collection . . . . and also to obtain . . . . sufficient and effectual powers . . . . for the preserving and continuing my said collection, in such manner as they shall think most likely to answer the public benefit by me intended."

Sloane's gift was accepted by the British Parliament, and in 1753 an act was passed for the purchase of the Sloane library and museum and of the Harley collection of charts and manuscripts, which was in the market at the time, for uniting them with the Cotton Library, and for providing one "general repository" for these and other additions that might thereafter be made. The act authorized the raising of the funds required by means of a lottery, and fully £90,000 was thus obtained. The three collections thus acquired and housed became the British Museum, which opened to the public on Monday, the fifteenth day of January, 1759. As originally organized, the British Museum was divided into three departments; (1) manuscripts, medals and coins; (2) natural and artificial productions; and (3) printed books. In 1802 the great collection of Egyptian antiquities acquired under the capitulation of Alexandria passed into the museum. This was followed in 1805 by the purchase of the Towneley marbles and terracottas, and the bronzes, coins, gems, and drawings in 1814. These acquisitions rendered it necessary to create a new department, that of Antiquities and Art, to which were united the Prints and Drawings as well as the Medals and Coins. Botany was added as a fifth department in 1827, after the bequest of Sir Joseph Banks' collection. In 1837 the Prints and Drawings were separated from the department of Antiquity and became an independent department. At the same time the department of Natural History was divided into two, one of Geology, including Paleontology and Mineralogy, and the other of Zoology. In 1857 Mineralogy was constituted a separate department. In 1861 the department of Antiquities was sub-divided into (1) Greek and Roman Antiquities, (2) Coins and Medals, (3) Egyptian and Assyrian Antiquities; and in 1866 the British and Mediaeval Antiquities were formed into a separate department along with the Ethnographical collections. Between 1880 and 1883 the Natural History collections were transferred to the new Natural History Museum in Cromwell Road.

In our own country the earliest general collection of natural history objects formed is said by Goode to have been one made at Norwalk, Connecticut, by a Mr. Arnold. This was prior to the Revolution. It was described as "a curious collection of American birds and insects." This collection served at least one important purpose, since it is said to have awakened in President John Adams an interest in natural science which led to the founding of the American Academy of Arts and Sciences.

The first natural history museum in our country, so far as appears from present records, was established at Charleston, South Carolina, in March, 1773. This was founded under the auspices of the Charleston Library Society, a request for "all the natural Productions . . . . that can be had in their several Bounds" in order to present "a full and accurate Natural History of the Province" being the call under which specimens were asked for.

It is gratifying that this museum has retained its existence to the present day and under the influence of its present able and energetic director is younger and stronger than ever. As might be expected, Massachusetts did not yield long in initiative to South Carolina so that we find the next natural history museum to be established in this country was at Salem, Massachusetts, in 1799. This was founded to provide a permanent home for the collection of the East Indian Marine Society. Salem was at that time a great trading port and its ships traveled over all the world. Returning shipmasters brought back the products of many lands and these rapidly formed an important collection. We are glad to record for this institution also a continuous career and abounding vitality at the present time. Another important early natural history museum in this country was the private museum of Charles Wilson Peale. Peale was a portrait painter of Philadelphia, but though an artist by profession was much interested in natural history. The foundation of his collection was a few of the bones of a mastodon, which he acquired in 1785. Sixteen years later he obtained the first entire skeleton of this animal which had, up to that date, been found. Besides specimens of natural history the museum contained wax figures of the different nations of the North American Indians, a collection of their arms and utensils, other Indian and European curiosities, and casts of ancient gems and statues.

The United States National Museum was practically founded in 1846 when, under the plans for using the Smithson bequest, arrangements were made for a museum in what is, incidentally, one of the longest sentences on record, as follows:

> Whenever suitable arrangements can be made from time to time for their reception, all objects of art and of foreign and curious research, and all objects of natural history, plants, and geological and mineralogical specimens belonging to the United States, which may be in the city of Washington, in whosesoever custody they may be, shall be delivered to such persons as may be authorized by the Board of Regents to receive them, and shall be so arranged and classified in the building erected for the Institution as best to facilitate the examination and study of them; and whenever new specimens in natural history, geology, or mineralogy are obtained for the museum of the Institution, by exchange of duplicate specimens which the Regents may in their discretion make, or by donation which they may receive, or otherwise, the Regents shall cause such new specimens to be appropriately classed and arranged.

In pursuance of this plan, in the building erected for the Smithsonian Institution, 30,000 square feet of space was made available for exhibition purposes. Occupancy of this was acquired in 1858. This space became inadequate after the Centennial Exposition, and in 1881 a new building providing 90,000 square feet of space was added. This building was occupied in part by industrial and historical collections, but those of natural history required by far the largest space. In a little more than twenty-five years the natural history collections, in which is included anthropology, had so increased in importance and extent that a new building having 233,000 square feet of exhibition space and 160,000 square feet of laboratory and storage space was provided for these collections alone. The earlier buildings had no provision for laboratory or storage space. Another indication of the expansion of the National Museum in natural history lines is afforded by the fact that whereas as late as 1893 there was but a single curator or custodian of insects, at the present time there are nine.

In addition to changes in space the National Museum underwent changes from the administrative point of view which have been described by Goode as follows: There were three periods, he says:

First, the period from the foundation of the Smithsonian Institution to 1857, during which time specimens were collected solely to serve as materials for research. No special effort was made to exhibit them to the public or to utilize them except as a foundation for scientific description or theory.

Second, the period from 1857, when the Institution assumed the custody of the 'National Cabinet of Curiosities,' to 1876. During this period the Museum became a place of deposit for scientific collections which had already been studied, and these collections so far as convenient were exhibited to the public, and so far as practicable, made to serve an educational purpose.

Third, the period beginning with the year 1876 in which the Museum undertook more fully the additional task of getting collections and exhibited them on account of their value from an educational standpoint.

The progress that has here taken place in the active acquisition of specimens instead of the passive reception of them and in paying more attention to exhibition of material may be said to have characterized all active natural history museums of this country in the past half-century.

The colleges of the country were in earlier periods, as now, centers to which natural history materials normally flowed, such materials being both acquired for teaching purposes and deposited for safe keeping. But the attention and funds devoted to the display and preservation of these objects were in most cases meager, and little effective effort towards the establishment of a natural history museum in connection with a college or university in this country seems to have been made previous to that of Prof. Louis Agassiz at Charleston in 1850 and at Harvard College in 1852. Agassiz's stay at Charleston was too brief to effect noteworthy results, but at Cambridge he accomplished much. He found little material at Cambridge suitable for illustrating his lectures upon geology and zoology and with characteristic zeal and energy he set about supplying the deficiency. Indeed it is possible that he regarded the founding of a museum as his most important work, since he expressed his purpose to "consecrate all his energy and ability to the creation of a great museum, the best arranged and most perfect in the world." It is a great tribute to the ability and enthusiasm of Agassiz that he was able under the shadow of the impending civil war to raise the sum of nearly $200,000 from the legislature and citizens of Massachusetts for the founding of this museum. Agassiz stated his purposes in establishing the museum to be: First, to express in material forms the present state of our knowledge of the animal kingdom. Second, to make the museum a center of original research, where men who are engaged in studying the problems connected with natural history could find all they needed for comparative investigation; and, Third, to make the museum an educational institution having a widespread influence upon the study, the love, and the knowledge of nature throughout the country. That this museum has fulfilled and is fulfilling these high purposes no one will gainsay. Not only has it been a model institution in itself, but men trained in it have been active in the upbuilding of other museums.

Whether stimulated chiefly by the influence of Agassiz or by that of the Salem museum or if either, I do not know, but in 1867 the cause of college natural history museums was further advanced by the gift of George Peabody of $150,000 to Harvard College for a museum of archeology and ethnology and of the same amount to Yale for a general natural history museum. Both of these funds have served to maintain important and valuable museums. A large and attractive natural history museum has recently been established at Princeton University and many other universities and colleges in this country now have such museums of some size and importance, some institutions of lesser means being better equipped in this regard than others with larger funds.

The formation of natural history collections in connection with the work of learned societies has often occurred and has led to the founding of several important museums in this country. Examples are the museum of the Philadelphia Academy of Science, founded in 1812, and that of the Boston Society of Natural History, founded in 1830. Such institutions have performed services of incalculable value by their preservation of specimens and stimulation of continued interest in natural history.

With the exception of the aid given to the Charleston Museum by the City of Charleston in 1850, the first establishment of a museum of natural history under municipal auspices in this country seems to have been that in New York City in 1869. Leading citizens there, realizing the importance in the cultural growth of the city of such an institution, procured a charter from the legislature and obtained funds by private subscription. At first the city was asked to erect a single building to shelter both the museum of natural history and the museum of art, but fortunately sites were granted for a building for each. Fortunately also the plan of the building designed for the natural history museum was on a scale sufficiently large to provide for future growth. The first unit of the contemplated building was opened in 1877 and in less than forty years a large part of the original plan has been carried out, the present magnificent structure has been erected and it has been filled with precious material. In the view of the Hon. Joseph H. Choate, "the money spent by the City of New York in the development of this Museum and the Museum of Art is the best investment of public moneys ever made by it, whether we consider the direct benefit to the people or the prestige and character attained by the city as the great metropolitan center of knowledge and culture."

While the example set by New York City of supporting a great natural history museum largely by public funds has not been followed in exact form by many other American cities, the principle has been accepted either by the donation of sites and other privileges to museums founded by private munificence, or by municipal assistance to museums inaugurated by learned societies. The city of Milwaukee supports its natural history museum by a municipal tax and there are gratifying indications that other cities will sooner or later adopt this method of support of museums. All cities should recognize such museums as an essential feature of their cultural equipment. Oakland, Denver, Providence, Charleston, and Grand Rapids may be mentioned as cities which have already shown sufficient appreciation of such institutions to found or support them. Among institutions supported by public funds several state museums which are doing work of great importance should also be mentioned.

To the beneficence of single donors has been largely due the founding of such museums as the Peabody, Field, and Carnegie museums. Such gifts as well as those of private individuals to museums already established show an interest on the part of individuals which in some cases has been in advance of that of the general public.

The natural history museums of Canada have developed chiefly under governmental or university auspices, and we are glad to note that increased appreciation and support seem to be accorded them in recent years.

The National Museum of Mexico has an excellent natural history section in which important material is preserved. Most South American countries maintain important natural history museums, especially in their capitals, those of Brazil, Argentina, and Chile being especially worthy of mention.

An endeavor to establish natural history museums and collections especially adapted to the interests of children has marked a new line of progress in recent years. The results have been very gratifying and promise wide usefulness. The purpose of such museums was well stated when in the plan of the Children's Museum of Brooklyn it was said that its purposes were "to form an attractive resort for children with influences tending to refine their tastes and elevate their interests; to create an attractive educational center of daily assistance to pupils and teachers in connection with school work; and to offer new subjects of thought for pursuit in leisure hours." Through a somewhat similar movement there has been brought about in many localities close connection between natural history museums and school work. This movement also seems destined to greatly increase the usefulness of natural history museums since it widens their appeal and brings about an acquaintance of the child with the museum which is likely to be an abiding and elevating influence.

The wide-spread public interest and support accorded to natural history museums which we have noted as occurring in recent years seem to mark a new era in their history. In earlier years these museums, partly perhaps because of the auspices under which they were founded, addressed their appeal chiefly to the learned and the specialist. They either did not endeavor to develop or did not succeed in developing wide public interest. Such an attitude was unfavorable both to the museums themselves and to the public. It tended to make the museums mere storehouses for the accumulation of material and it gave the public an unfavorable opinion of their possibilities. Much of the awakening which I have noted as having taken place has no doubt had its origin in the labors of museum workers themselves, since they, with marked originality and enthusiasm, have shown what possibilities in the way of education and recreation lay in museums and their contents. Sir Hans Sloane's principle of the desirability of establishing museums where there is a "great confluence of people" seems also a sound one, since it is in such museums that the most marked development has taken place in the past quarter-century. This does not mean that splendid work is not being done by museums in smaller communities, but simply that since larger communities have as a rule larger opportunities they may obtain greater results when they improve these opportunities.

Next to what may be called the democratization of natural history museums perhaps the most significant feature of their development in the last quarter-century may be said to be the introduction of art into their methods of illustration and exhibition. Not only has a pleasing variety thus been gained in the old methods of installation, but the attractive and well-modeled groups which have been made effectively supplement the long rows of birds. shells, rocks, etc., which constituted the sole exhibits of earlier museums. In modern practice there are thus shown with more or less detail not only objects but their environment and surroundings. The lesson taught by a single object no longer suffices; it must be represented, if possible, in its natural setting. This is, consciously or unconsciously, a recognition of the fact that nothing in nature is of isolated origin; it is the product of the working of complex and varied forces. These forces, then, should be at least hinted at in the representation of the object. The food of an organism, the various stages of its development, its habitat and its habits must be represented before the organism itself can be thoroughly understood. But in the development of this attractive and fascinating field one note of caution should perhaps be sounded. A tendency to prefer imitation to reality is not one which those interested in the progress of science at least should seek to promote. The existence of this tendency from early times is shown us in the incident of the Greek audience who applauded wildly the actor who imitated the squealing of a pig, but drove off as an impostor the peasant who produced real squeals from a pig hidden under his coat. A chance companion with whom I visited the battlefield of Gettysburg was continually referring with enthusiasm to the well-known panorama of that battlefield, while in the locality itself he took not the slightest interest. Desirable as is the introduction of the best of art into our natural history museums, it should not usurp the place of science, for otherwise they become museums of art and not of science. Highly desirable as are museums of art and much as observance of the principles of art is needed in the conduct of natural history museums, we should not confuse them in modern development.

Another cause for recent increased interest in natural history museums is doubtless a growing appreciation of the value of nature study. The exigencies of city life have practically closed the book of nature to many dwellers in cities. There is one school district that I know of in Chicago which contains only two trees and at last accounts one of them was dying. How shall the wonderful lessons of nature, of which man is after all but a part, be taught to children in the city unless there be institutions which will depict and reproduce its forms? If city life means that thousands of children can never see birds, butterflies, flowers, rocks, etc., in their native haunts, the city should try to provide means to show the form and wherever possible the substance of these things, especially as in doing so it can provide a far larger variety than would naturally occur in any single locality.

Still another reason for an increased interest in the work of natural history museums may arise from a realization of how rapidly many of the forms of nature are vanishing before the progress of man and his works. The leveling of forests, draining of marshes, and irrigating of deserts cause marked changes in nature. The destruction of one species makes changes in the habits and habitat of others. These in turn react upon their environment and cause new confusion. The practical disappearance of the Indian from the North American continent was not wholly due to his forcible segregation by the white man, but in part at least to the destruction of the buffalo which constituted his normal food supply. With the buffalo, disappeared in part at least the wolves and eagles which fed upon them. These in turn are doomed to practical extinction. A large share of the animals and plants inhabitating this continent at the time of its discovery by Europeans are not destined to survive long except as they are protected by man, and will soon become extinct in spite of him. The wild pigeon, so common in Audubon's time that he saw shiploads which had been caught up the Hudson for sale on the wharves of New York for a cent apiece, has become entirely extinct. Other birds, flowers, and even minerals have also become extinct in this country since the first coming of the Europeans. To museums must be largely assigned the work of conserving the remains of such forms ere they are absolutely lost. Specimens which are valuable now will be priceless in years to come. As but a single illustration of the great value which specimens preserved now may prove to have later may be mentioned the fact that an important link in the study of mutations has lately been furnished by specimens collected in this country by Michaux in 1785 and preserved in the Natural History Museum of Paris.

Again, interest in natural history museums has doubtless been quickened in recent years through recognition of the evolutionary trend of nature. This has given new meaning to her works and suggested interesting methods for the arrangement of collections. Where so well as in museums can the successive stages be shown by which the progress of nature has gone on, by which the creature has become adapted to its environment and the fittest has survived? As this great law of life is found more and more to express nature's methods, its lessons can be convincingly and satisfactorily taught by museums.

While a desire for more knowledge of nature has been the prevailing influence in the establishment of natural history museums, it should not be forgotten that these museums have themselves in turn contributed much to our knowledge of nature. Not only has this been done by research work and publications, but even the mere necessity for orderly arrangement of museum material has of itself sometimes produced such new knowledge. The science of archeology is said to have dated its origin from the time of the arrangement of the Museum of Copenhagen. The study of meteorites has been made possible as a science by the accumulation of a large number of these bodies by museums. All biological sciences are under obligations to natural history museums for many of the data which have aided in their development.

The brief sketch which has been submitted serves to show that natural history museums must now be fully recognized as an indispensable feature of modern civilization and I believe that the progress of civilization will only fix them more firmly in this place. The vicissitudes which the development of these museums has suffered have only emphasized their importance and made more evident their functions. The opportunities which now open before them are larger and at the same time more clearly defined than ever.

As an ideal toward which not only natural history museums but all museums so far as the outlook at the present day is concerned should work, I cannot do better than to quote, with some slight modifications, an utterance of Ruskin: "The first function of a museum is to give an example of perfect order and elegance. Everything should be in its own place, everything looking its best because it is *there*. Nothing should be crowded, nothing unnecessary. The museum is only for what is eternally right and well done. The least things are there and the greatest, and all good. The simple may go there to learn, and the wise to remember."

The following paper was presented by Mr. Paul M. Rea, director of The Charleston Museum. Mr. Rea prefaced the presentation of his paper by remarking upon the coincidence that the subject he was about to discuss proved to be an intensive study along the lines of the more general discussion of the presidential address.

A CONTRIBUTION TO EARLY MUSEUM HISTORY IN AMERICA

In this paper are assembled for the first time in consecutive order some of the results of a series of investigations which have recovered many long-forgotten facts in the history of our oldest museum.[1] These facts are presented here as a contribution to the history, as yet unwritten, of the development of museums in America, and in the hope that the story they tell may prove of general interest.

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[1] These investigations have been accomplished through the cooperation of a number of workers, among whom the author desires to mention especially Miss Eola Willis, Mr. Wm. G. Mazyck, Mr. John Bennett, and Miss Mabel Webber. The files of the *Bulletin of The Charleston Museum* since 1906 contain full reports of the progress of these studies.

Our oldest museum was established by the Charles-Town Library Society in Charleston, South Carolina, in 1773, just twenty years after the founding of the British Museum. Not only is the Charleston Museum our oldest existing museum but, as far as present knowledge goes, it is the first public museum established in America. To the Charles-Town Library Society is thus due the credit of conceiving the museum idea, or at least of first giving it formal expression. The prospectus published by the society in the *South Carolina Gazette* (Powell's) of March 22 and April 5 and 12, 1773, and in the *South Carolina Gazette and Country Journal* of March 30 and April 6 in the same year is so remarkable a document that I venture to quote it in full:

The LIBRARY SOCIETY,
OF
CHARLES-TOWN,

> TAKING into their Consideration, the many Advantages and great Credit that would result to this Province, from a full and accurate NATURAL HISTORY of the same, and being desirous to promote so useful a Design, have appointed a Committee of their Number to collect and prepare Materials for that Purpose.
>
> That this may be done in the most complete and extensive Manner, *they do now invite* every Gentleman who wishes well to the Undertaking, especially those who reside in the Country, to co-operate with them in the Advancement of this Plan. - - - - For this Purpose, the Society would Request such Gentlemen to procure and send to them, all the natural Productions, either Animal, Vegetable, or Mineral, that can be had in their several Bounds, with Accounts of the various Soils, Rivers, Waters, Springs, &c. and the most remarkable Appearances of the different Parts of the Country.
>
> Of the Animal Tribe, they would wish to have every Species, whether Terrestrial or Aquatic, viz. Quadrupedes, Birds, Fishes, Reptiles, Insects, Worms, &c. with the best Accounts of their Customs and natural Habitudes.
>
> Of Vegetables, they will thankfully receive every Kind, from the loftiest Tree in the Forest, to the smallest Plant of the Fields. - - - - A complete Specimen of any Tree or Plant, will be two small Branches of each, one having the Flower in full Blossom, and the other the ripe Fruit. - - - - At the same Time the Society beg to be furnished with the best Accounts that can be given of the Uses and Virtues, either in Agriculture, Commerce, or Medicine, of which such Tree or Plant is possessed - - - the Soil in which it most commonly grows - - - -the Season in which it flowers, and when it bears its Fruit.

> They would be glad to be furnished also with Specimens of all the various Fossils, Minerals, and Ores, the different Soils, Earths, Clays, Marles, Stones, Sands, Shells, &c. the Productions of this Province, with the best Accounts of their several Natures, Qualities, Situations and Uses.
>
> The Society, in order that this Design may be carried into immediate Execution, have fitted up a Museum for the Reception and Preservation of Specimens of these several natural Productions, and have appointed CHARLES COTESWORTH PINCKNEY, and THOMAS HEYWARD, jun. Esquires, with ALEXANDER BARON, and PETER FAYSSOUX, Physicians, in *Charles-Town,* to receive them; to whom all Letters of Intelligence, Specimens, &c. are to be addressed.
>
> And they flatter themselves, that the evident Utility of the Plan, will engage such a Number of public spirited Gentlemen to assist them, that they will soon be enabled to make a considerable Progress. - - - - They will not only gratefully receive all such Communications, and apply them in the best Manner they can for the above Purposes, but the Names of such shall be recorded as Promotors of, and Contributors to, so useful a Work.
>
> Any Expence that may be incurred by forwarding Letters of Intelligence, Specimens, &c. to Town, the Society will chearfully repay.
>
> *By order of the Committee,*
>
> JOHN MURRAY, *Chairman.*

It would be hard today to express more perfectly the purposes of a local museum than was done in this prospectus one hundred and forty-two years ago. Practically the only phase of museum activity as we now conceive it which is not included in this advertisement is the educational work with public schools, and it must be remembered that in those days there were no public schools.

Like most human activities, this museum long failed to realize completely the ambitions of its founders, but when we remember that the year which gave it birth was followed immediately by the long ravages of the Revolutionary War we can only wonder that the integrity of the museum was maintained and the collections increased during this trying period. That this was done we learn from Ramsay's History of South Carolina,[2] in which he states:

> On the 17th of January 1778, a very extensive fire took place in Charlestown, when this library, containing between six and seven thousand volumes, comprising a very valuable collection of ancient authors, with paintings, prints,

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[2] Ramsay, David, History of South Carolina. Charleston, 1809, Vol. 2, p. 379.

a pair of elegant globes, mathematical and other instruments, and many specimens of natural history, was almost totally destroyed.

The next record in the history of the museum consists of a small notebook in which were entered the articles presented from 1798 to 1808.[3] This is the oldest museum accession book in America. It is particularly interesting to note that two of the specimens presented in 1798 are still in the collection and in good order. These are a cassava basket from South America and a grass helmet from the Sandwich Islands. It is also of interest that the museum has received within the last two months a photograph of a portrait of the donor of the cassava basket.

In March, 1815, the Library Society gave its collections and cases to the Literary and Philosophical Society of South Carolina. This society had been incorporated in 1814 for the purpose of collecting, arranging, and preserving specimens of natural history, and of things rare, antique, curious, and useful, and secondarily for the promotion and encouragement of the arts, sciences, and literature generally. Great credit must be given to the Library Society for its foresight and generosity in transferring its museum to the new organization, since this action undoubtedly made possible a larger development of the museum than could have been expected as a subsidiary activity of the Library Society.

The development of the museum inaugurated by the Literary and Philosophical Society, upon receipt of the collections from the Library Society, is so well told by the founder of the society, Dr. Shecut, that I quote as follows from his Medical and Philosophical Essays:[4]

> The objects of the association were no sooner publicly known, than numerous donations of specimens, in every department of the arts and sciences, were liberally bestowed, with which to commence its Museum. These, with the cases and collection, presented by the *Charleston Library Society,* in 1814[5] began to assume a respectable and very flattering appearance.
>
> The opportune arrival of that distinguished naturalist and practical chemist, Dr. FELIX L'HERMINIER, from Guadaloupe, with an extensive collection of specimens, the fruit of twenty years application, expense and industry, which he offered to the society, was an advantage, not to be lost sight of. Negociations

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[3] This accession record has been printed in *Bull. Chas. Mus.*, Vol. 2, 1906, pp. 47–54.

[4] Shecut, J. L. E. W., Medical and Philosophical Essays, Charleston, 1809, pp. 49–52.

[5] In 1815, according to the records of the Library Society.

were immediately entered into with that gentleman, by a committee of the society. The citizens were also invited to co-operate with them in effecting the purchase of this collection, towards the establishment of a respectable and scientific Museum in Charleston.

Those persons who subscribed fifty dollars, on payment of that sum, became members for life. The State Legislature and the City Council, alive to the importance of this object, with a promptness and liberality, which will forever redound to their credit, contributed largely towards the purchase, and, with the sums subscribed by individuals, enabled the society to make a purchase of that valuable collection, which is now one of the chief, and perhaps, most interesting ornaments of the city.

The superior personal attention and talents of Dr. L'HERMINIER, were also enlisted in behalf of the society, by being appointed superintendant of the Museum. This was also an acquisition of importance; his practical knowledge in every department of science, and particularly that of chemistry, had already given a character to that department, which cannot fail to ensure its future progress. . . . .

Our distinguished fellow citizen the Hon. THOMAS SUMPTER, minister, resident at Brazils, has lately enriched the Museum of the society, by presenting it with an extensive, splendid and very valuable collection of minerals, birds, and insects of Chili, and the Brazils. The society are also in a very especial manner indebted to the Hon. JOEL R. POINSETT, the Hon. HENRY MIDDLETON, STEPHEN ELLIOTT, Esq. Messrs. MACLURE, CARADEAUX, and other respectable individuals, for their valuable donations of specimens in natural history, and for which, their names have been honorably mentioned in the journals of the society.

. . . the society may be said to be in a flourishing condition. It consists of 138 members, many of whom are of the first standing in society, and of acknowledged literary and scientific talents. Its Museum is rich in an extensive collection of minerals, fossils and shells. The departments of Zoology, particularly those of Ornithology, Erpetology, Ichthyology and Entomology, are extensively filled. It is also rich in coins, medals and castings. The specimens of art are also very considerable; and the whole are arranged in the most appropriate order by their late superintendant.

The library of the society, being for the most part confined to books of science, is yet in its infancy. . . . A fund is appropriated towards its particular establishment, which has been enriched by a donation of 750 dollars, from JOHN BLAKE WHITE, Esq. one of its members.

Upon the whole, this society may be said to be established upon such sure foundation, as cannot fail to ensure its ultimate success, and we look forward with pleasing anticipations to that period, when it will rank among the most useful and respectable institutions of the kind in America.

There is no record of the price paid for the L'Herminier collection, but a private letter of the period describes it as held at a valuation of $10,000. The actual purchase price may have been less, but in any event it indicates a considerable activity on the part of the society and interest on the part of the citizens, the city council, and the state legislature. It is not improbable that the appropriations made to the Charleston Museum in 1815 were the first grants of tax funds to an American museum.

We have no details as to the nature and extent of the L'Herminier collection. Indeed, there is record of only one specimen of this lot. That one is of peculiar interest. It consists of parts of the skull and a few fragments of the long bones of the famous skeleton of the fossil man of Guadaloupe. Many of you will remember that a number of skeletons were found in the modern coral limestone on the island of Guadaloupe early in the nineteenth century. One of these found its way to the British Museum and another to the Paris Museum. The British Museum specimen has had a remarkable history. It was found on board a French ship captured by a British admiral, and was by him presented to the British Museum. This skeleton lacks the skull and certain fragments of the long bones. The specimens in the Charleston Museum supply the missing parts of the skeleton in the British Museum, as stated by Mantell in his Wonders of Geology.[6]

That museum development was subject in those days to the same vicissitudes which often confront it now is evidenced by the fact that in 1819 Doctor L'Herminier, being unable to make a living in Charleston, found it necessary to return to Guadaloupe.

In 1824, however, a vigorous effort apparently was made to arouse general public interest and to raise funds for the erection of a building to house the collections, as we learn from the following communication on the editorial page of the *Courier* of November 23, 1824. It is to be regretted that the writer is unknown.

> *The Museum of South Carolina*, in Chalmers-street, is this day open for public exhibition, which is to continue until the first of May next. The entire avails will be appropriated to the laudable purpose of raising a building to contain the collection, and if the citizens are unanimous *in purchasing Season Tickets*, this, with donations that may be expected from the friends of science, funds sufficient may be obtained to commence a building before next fall. There is no present prospect that those who are giving time and talents to the interests of this Museum, shall ever see it *in a proper building in Charleston*, except by means of public subscription. Were a house once built, the Museum would improve in its collection, and be able to support itself. Strangers from the interior of this State, from North-Carolina, Georgia, Florida and the West-India Islands, in the winter and spring, would not fail of visiting the Institution, and carrying the information to their distant homes, would tell of what they had seen, and impel others to their example; so that the Museum of South-Carolina would obtain a name, (a very great object) and soon become as well known in the South, as Peale's Museum is,

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[6] London, 1848, Vol. I, p. 87.

in Pennsylvania and Maryland. In these enlightened times, a public Museum is as necessary an appendage to a city, as a public newspaper or a public library, and I hope we all wish to see Charleston possessed of every Institution that other cities of the Union can boast of.

In 1826 the museum was conducting a most creditable exhibition and seems to have succeeded in arousing the most lively interest on the part of the public. In most issues of the *City Gazette* in January 1826, the following advertisement appears, from which much may be learned of the extent and diversity of the collections which Mills mentions as being at that time "an honor to the state:"

THE MUSEUM

OF SOUTH CAROLINA

In Chalmers' street, (near the City Square,)

CONSISTING of an extensive collection of *Beasts*, *Birds*, *Reptiles*, *Fishes*, *Warlike Arms*, *Dresses*, and other CURIOSITIES—among which are:

The HEAD of a New Zealand Chief
An Egyptian Mummy (a child)
The Great White Bear of Greenland
The Black and the Red Wolves of South Carolina
The South American Lion
The Duck Bill'd Platypus from New Holland
The Bones of an Ostrich as large as those of a Horse
The Boa Constrictor or Anaconda Snake, 25 feet long
The Grampus Whale, 20 feet long
800 Birds, 70 Beasts, 200 Fishes
4000 Specimens of Minerals.
Shoes of the Chinese Ladies, 4 inches long
The Saw Fish - — - Saw 4½ feet in length
A large collection of views of the Public Buildings, &c. in Europe - — - and
A Fine Electrical Machine

The whole elegantly arranged in glass cases, open every day from 9 o'clock, and brilliantly illuminated every evening, with occasionally a Band of Music.

☞Admittance 25 cents. Season tickets $1.;
Children half price. f Jan. 6

The above is the second oldest accession list of the museum collections yet discovered.

This, too, from the *Charleston Courier* of January 23 of the same year is interesting if not quite so valuable:

> ### MUSEUM
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> VISITORS are requested not to touch any of the Animals on the floor of the Museum, as these Animals are newly put up and not dried; every thumb or finger making an impression on the stuffed skin, injurious to its natural appearance.

It is surprising to learn that museums were so popular nearly a century ago that they had to be brilliantly illuminated every evening. There was even rivalry for popular favor, for other newspapers contain notices of the existence of a second museum in Charleston at this time. This was apparently more of a commercial venture but also contained large series of specimens. The interest of the public may have been something of a fad, however, for we learn in 1827 that the museum failed to obtain the necessary funds for erecting a building of its own, and the Literary and Philosophical Society therefore deposited its collections in the Medical College of the State of South Carolina, which had been recently organized. The following note appears in an advertisement of the Medical College published in 1828 and was continued in the catalogs of the college through 1846:

> The Student of Anatomy and Natural History, has facilities afforded him, which are equalled by few, and surpassed by no similar institution of our country. In addition to the Anatomical preparations and Chemical Apparatus received last year from Europe, the Chalmers-Street Museum, containing a large collection of Minerals, Shells, Birds, &c., has been removed to the college, where it will permanently remain.

The Medical College evidently devoted itself actively to the increase and development of the museum, although it probably diverted it to more distinctively medical uses. The museum remained with the Medical College until 1850, when the building in which it was contained was torn down to make room for the erection of a new hospital. This necessity of making further arrangements for the housing of the museum came at an opportune time, since Charleston then possessed a galaxy of scientific men, stimulated and guided by Professor Louis Agassiz.

The American Association for the Advancement of Science held its third meeting in Charleston in 1850, and at the session of March 16 Agassiz suggested the desirability of establishing a larger museum in Charleston about the nucleus of the museum of the Literary and Philosophical Society. This is apparently Agassiz's first effort in museum development, and is particularly interesting as a prelude to his great work for the Museum of Comparative Zoology at Cambridge.

Interest developed rapidly and at a meeting of the board of trustees of the College of Charleston on March 28 (almost exactly the seventy-seventh anniversary of the founding of the museum) a proposal was favorably received looking to the use of rooms in the College of Charleston for the museum. This plan was formally approved by the trustees on July 15, 1850, and was communicated to the city council for endorsement, since the city was expected to defray the maintenance of the museum. The minutes of city council were destroyed during the Civil War but the communication of the trustees of the college fortunately was printed in the Charleston *Courier* of July 19, 1850, and contains the following indications of the plans for the museum:

> The yearly regular expenses therefore may be estimated at about fifteen hundred dollars and it is believed that at present that amount cannot be raised by private subscription, and under existing circumstances, could only be permanently provided by an annual appropriation by the city. It is confidently believed that such an appropriation would be amply compensated by the advantages which a well regulated and well sustained museum would bring to the city. It would aid greatly in exciting and rewarding a spirit of research and accurate enquiry among all our students of Natural History. It would furnish us with new and accurate information of the changes which have taken place in the different accessible strata of our State, and of the inhabitants in all the departments of nature, by which these strata have been successfully occupied. It would assist the agriculturalist in studying the nature of his soil, and suggest the means of stimulating its fertility.
>
> It would bring us into direct relations with the distinguished naturalists of this country, and of Europe, and be a point of attraction to them under favorable auspices, and maintained with that zeal and ability, which it would surely deserve, it would be an ornament and an honor to the city and to the State.

The application of the trustees was favorably received by city council and on August 29, 1850, an "Ordinance to provide for the appointment of a curator for the museum of the College of Charleston" was duly ratified. This ordinance was printed in the *Courier* for August 31, 1850, and in several succeeding issues, as follows:

AN ORDINANCE to provide for the appointment of a Curator for the Museum of the College of Charleston, and for other purposes.

Whereas, by a report from the Trustees of the College of Charleston, submitted to Council on the 16th July, by the Hon. Mitchell King, President, it appears that several scientific gentlemen have generously tendered, as a free gift for the use and advantage of the public, their collections in the various departments of Natural History: *And Whereas,* The Trustees aforesaid having designed to provide suitable apartments in the College Buildings, for the accommodation of a Museum of Natural History: *And whereas,* the prosperity of the College is associated with the highest interests of our City and State, and is directly under the patronage and control of the City Council of Charleston.

SEC. 1. *Be it therefore ordained,* That the Trustees of the College of Charleston be and they are hereby authorized, when and so soon as the said apartments shall have been designated, and the collections referred to in their report to Council, shall have been placed at their disposal to proceed to the election of a Curator for the Museum, and they are also authorized to make all proper rules and regulations for the government of the said Museum; and the salary of said Curator shall be twelve hundred dollars per annum.

SEC. 2. That there shall be appropriated the annual sum of three hundred dollars for the maintenance and improvement of the said Museum; the same to be paid out of the City Treasury to the Trustees of the Charleston College, and to be applied and expended under the direction of the said Trustees.

Ratified in City Council this twenty-ninth day of August, one thousand eight hundred and fifty, and in the seventy-fifth year of American Independence.

T. LEGER HUTCHINSON, Mayor.

By the Mayor.
JAMES C. NORRIS, Clerk of Council. Au 31

It is not improbable that Charleston thus became the first American municipality to enter into a permanent supporting relation to a museum.

Professor F. S. Holmes was appointed curator of the museum on November 25, 1850, and fourteen months later the opening of the museum was formally celebrated as we learn from the following article in the *Courier* of January 26, 1852:

Museum of the College of Charleston.—On Saturday last, at 12 M., the opening of this excellent and valuable Museum of Natural History and Geology was celebrated at the College Building, by an interesting ceremonial. By the invitation of the Board of Trustees, the Mayor and Aldermen of the City, the Faculty and Alumni of the College, and a large number of literary and distinguished guests were present. Professor F. S. Holmes, the able, scientific and devoted Curator of the Museum, who also fills the Chair or Geology and Palæontology presented his report of the organization of the Museum, showing how, in the short space of fourteen months (the period since he commenced operation) it had reached its present high and palmy state, and that, wholly from the voluntary contribution of specimens—the contributors having been about sixty-seven in number, and chiefly from the districts of Charleston, Beaufort and Georgetown, and there being a certain prospect of early and valuable additions to the collection. The Hon. Mitchell King, President of the Board of Trustees, and the liberal patron of the College, then addressed the Mayor and Aldermen on the advantages of the Museum, giving a highly interesting sketch of its origin and progress, justly eulogizing the indefatigable labors and enthusiastic zeal of the Curator, and suitably acknowledging the past favors and invoking the continuance of the liberal aid extended by the City authorities to the infant enterprise. In the course of his remarks, he alluded in just terms to the presentation to the Museum of the valuable collection of the old Literary and Philosophical Society and to the large and valuable contributions of Professors Buchanan [Bachman], Agassiz, Gibbs [Gibbes], and Shepperd [Shepard], and Henry W. Ravenel, Esq., in the Botanical, and of Professor Holmes himself, in the Geological department, and of many other liberal friends of science. The Hon. John Schnierle made an eloquent response to the address of the President, congratulating the Trustees and the community on the increasing prosperity and usefulness of the College, and . . . . recognizing in the Museum an institution eminently worthy of the fostering care which had been extended to it by the present Council and their predecessors in office. Professor Agassiz closed with a few remarks, in which he expressed unbounded admiration of the skilful and successful labors and arrangements of the Curator, stated the peculiar advantages enjoyed by Charleston for the establishment of a Museum, especially from the invaluable fossil remains in her immediate vicinity, and announced the gratifying fact from his own personal observation, that our infant Museum, although but fourteen months old, has nothing to compete with it in the whole Union, save the superior institution in Philadelphia, which has existed for 30 years. . . . .

The Museum occupies the entire extent of the upper story of the main college edifice and the specimens are most tastefully and skilfully arranged and classified. Its value is said by scientific men to be beyond computation in money, and its creation and possession are an honor to our City. . . . .

Space forbids any account of the dangers to which the museum was exposed or of the steps taken for its protection during the Civil War and of the details of its development during the remainder of the nineteenth century. It is rather to the broader aspects of its experiences as a college museum that attention is invited. Approximately 38 per cent of the 600 museums in the United States are college museums, and as a class they seem hopelessly moribund in comparison with the 15 per cent which derive their maintenance chiefly from municipal appropriations. The writer has discussed elsewhere[7] the causes of the deplorable condition of most college museums and wishes merely to illustrate the general problem by the particular instance of the Charleston Museum. The College of Charleston received the museum most heartily, as we have seen, cheerfully gave to its use about half the space in its main building, and took great pride in the distinction which it conferred upon the college. Inevitably, however, as in every similar situation the writer has investigated, it found the museum something of a white elephant, a useful but not vitally essential adjunct. As such the museum could not receive the large financial support from the college necessary to its adequate development. College museums are more numerous than any other class because in their early and inexpensive state they appeal strongly to college authorities. As they wax in size they invariably become a burden and an unjustifiable expense.

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[7] Educational work of American Museums. Rep. U. S. Commis. Ed., 1913, Vol. I, ch. 13, pp. 299–302.

The Charleston Museum, typical of its class, grew through the tireless energy of devoted curators who collected material, begged money, and performed the most varied work with their own hands. They also developed the one unique and saving factor in the situation, the element of municipal support. The fostering relation toward the museum adopted by the city council in 1850 as a result of certain obligations to the college, as well as from a public-spirited appreciation of the plan, provided by more or less regular appropriations the maintenance funds without which development could not have proceeded, and which the college legitimately could not have supplied. That this intermediate position between the purely college museum on one hand and the public or municipal museum on the other succeeded as well as it did for half a century is remarkable. It is not surprising, however, that the municipal authorities finally came to feel that the museum was not a sufficiently useful public institution to justify any large use of tax funds, while the college felt an increasing need of the space the museum occupied and a fuller realization of the impossible demands the adequate support of the museum would make upon its funds. The museum thus became a burden upon its host, the college, and a poor investment for its patron, the city. The college ceased to apply any funds to the museum and the city appropriation was gradually reduced to $250 in 1904. The museum was overcrowded, under-lighted, inaccessible, inactive. Its only care was the voluntary attention given by the professor of biology over and above the full work of his department, and a few hours service of a negro janitor. The collections were necessarily disintegrating.

From this deplorable condition there seemed but one avenue of escape. The phenomenal success of municipally-supported public museums, in contrast with the restricted opportunities of the museums of learned societies and the almost hopeless condition of most college museums, pointed the way. The city council responded to a new program for the museum with a generosity and appreciation in keeping with its traditions, increased its appropriations, and in 1907 provided a building for the museum. The collections were rehabilitated, the interest of the people was aroused. In March, 1915, after one hundred and forty-two years under the fostering care of other institutions, the Charleston Museum was independently incorporated with a board of trustees representing the best elements of the community. Its income has increased three thousand per cent; its staff includes eight persons regularly, in addition to honorary curators and special employees; it has its own library and laboratories and complete wood-working and printing shops; it is affiliated with the public and private schools and with the Medical College, and gave regular instruction to four thousand persons in 1914 as compared with two thousand in 1913 and a few hundred in 1912. Best of all it is every year becoming more firmly established in the hearts of the people.

Not the least significant fact in the history of our oldest American museum is that it has experienced successively the three chief forms of museum organization: (1) society support, (2) college support, and (3) public support. Furthermore, it has demonstrated conclusively that the last affords the largest possibilities of development and public service.

Prof. Homer R. Dill of the Museum of the State University of Iowa spoke of the new museum building erected by the University of Iowa at a cost of $350,000, with an additional expenditure of $90,000 for cases. He also reported the erection of a new museum building at Coe College in Cedar Rapids, Iowa, and of the appropriation of $350,000 or $400,000 for a museum building at the University of Indiana. Professor Dill brought these facts to the attention of the Association as evidence of the interest in university museums.

Secretary Rea spoke of the very great satisfaction with which he had learned from Professor Dill of some of these recent developments among college museums. He expressed the hope that these incidents might be but the beginning of a new era for college museums, but questioned seriously whether the expenditure of such large sums of money for museum purposes would appeal to college authorities except in sporadic instances. He referred to his discouraging experiences in the preparation of the Directory of American Museums, when it was found that 38 per cent of the 600 museums of the country were college museums and that almost none of them reported any evidence of active work. He suggested, however, that the influence of the very successful public museums would inevitably stimulate the development of at least some of the college museums.

Prof. Junius Henderson of the University of Colorado Museum described the many demands upon university authorities and the difficulty of devoting large amounts of money to museum departments. He felt, however, that university authorities will be glad to appropriate moderate sums, as the University of Colorado is doing, to the maintenance of museums which shall provide students with study and research material and which shall be able to furnish information to the general public. He stated that the museum of the University of Colorado is performing an important service in answering inquiries not only from people of Colorado but of neighboring states.

President Farrington suggested that the growth of public museums may be responsible for some of the decline of college museums where both exist in the same community and that the absence of this competition in Iowa and Colorado may explain their successful development.

Professor Dill believes that the trouble has come chiefly from the lack of available men who could properly prepare the material in the college museums.

The meeting then adjourned.

SESSION OF WEDNESDAY, JULY 7

Morning

The meeting was called to order by President Farrington at 10 a.m. in the Oakland Public Museum after the members had devoted an hour to inspection of the collections.

Mr. Charles S. Greene, secretary of the library board which governs the Oakland Museum, gave an address of welcome. Mr. Greene discussed briefly the organization of the Oakland Museum. He expressed his pleasure and satisfaction in welcoming the Association, and paid a high tribute to the late curator of the museum, Mr. C. P. Wilcomb, whose labor and ability have made the museum what it is today and whose sudden death makes this a sad as well as a glad occasion.

Mr. Higgins, secretary to Mayor John L. Davies, extended a cordial welcome to the Association on behalf of the city of Oakland and expressed the mayor's regret of his inability to be present in person.

Mr. Henry R. Howland of the Buffalo Society of Natural Sciences responded on behalf of the Association to these addresses of welcome. Mr. Howland expressed the pleasure and profit which members of the Association were receiving from their meeting in the West and paid a heartfelt tribute to Mr. Wilcomb.

Mr. C. P. Wilcomb, late curator of the Oakland Public Museum, had begun before his death the preparation of a paper which he expected to read at this meeting. The assistant curator, Mrs. D. W. de Veer, presented the following paper in which she had incorporated much of Mr. Wilcomb's material, endeavoring to follow his outline in general, but adding a more explicit account of his share in the museum's development:

FOUNDING AND DEVELOPMENT OF THE OAKLAND PUBLIC MUSEUM

While the history of the Oakland Public Museum does not differ in essentials from that of any similar institution, its development has been influenced by local conditions that may lend some interest to an account of its founding and growth.

The museum is strictly municipal, being supported by an appropriation made by the City Council and administered by the board of directors of the Oakland Free Library. This board exercises general supervision over the institution, but its affairs are directed in detail by the curator, who is appointed by the library directors, and is responsible to them.

In order to produce a keener appreciation of the environment under which the museum has been developed, I desire to quote a few facts about the city of Oakland.

Eight years ago the city had a population of 116,000 and an area of 16.61 square miles. Now it has a population of 215,000 and an area of 61 square miles, stretching along the bay shore for five and one-half miles and from the tidewater to the crest of the hill range that limits our view to the north and east. Eight years ago there were in the public schools 276 teachers and 14,240 pupils. Now there are 47 elementary schools with 693 teachers and 24,351 pupils. During these eight years, municipal progress has kept pace with municipal growth. Miles upon miles of streets and boulevards have been constructed; large and strictly modern school houses have been built; a two million dollar city hall, and a million dollar auditorium have been erected; a magnificent system of city parks and playgrounds developed; and a deep-water harbor project, deemed visionary by most people, successfully carried out.

On the wave of this wonderful municipal progress the museum was carried along as one of the lesser issues, but one dear to the heart of the mayor and loyally supported by those who held its welfare under their control.

Knowing the temperament that predominates in a community which is progressing by leaps and bounds along material lines, you will all realize that, with so many important projects demanding time and thought and money, it is not strange that the city could not set apart large sums to build a museum. Indeed it is a matter of congratulation that it was able to appropriate from $8000 to $12,000 each year for the support of one.

Although the idea of a museum had been considered and advocated for some time by private individuals and by Mayor Frank K. Mott, it was not until 1907 that any material actually came into possession of the city. When the Walter E. Bryant collection of ornithology and oology was offered for sale, Miss Bertha Chapman, then nature study teacher in the Oakland schools, made a determined effort to save the material to California and to secure it for Oakland. She enlisted the cooperation of E. P. Flint, William Hall, and others of similar interests, and a fund was raised to purchase the collection. It was presented to the city by the subscribers, and by his acceptance of the gift Mayor Mott laid the foundation of the museum and definitely committed the administration to its support.

Soon after, the John Daggett collection of ethnological material was also purchased and presented to the city. This collection represented practically every phase of culture of the Klamath River Indians of Northwestern California, and was quite well known, having been exhibited at the Columbian Exposition in 1893, and been on display as a loan for many years in the Golden Gate Park Museum in San Francisco.

About that time it became known to Mayor Mott that Charles P. Wilcomb was working among the Miwok and Pomo tribes, bringing together material illustrating the culture of those areas for a private museum in the East. The mayor immediately undertook negotiations to secure the release of this collection by the owner, and finally purchased it for Oakland.

An agreement was also made whereby, during the late summer and autumn of 1908, Mr. Wilcomb made an extended trip to the eastern states to assemble a collection illustrating Colonial life, of such nature that type rooms could be fitted up, and this material was brought back early in 1909.

The possession of these various collections, some of them rather famous locally, was of sufficient weight to influence the City Council to assume some responsibility for the museum and to make an appropriation for its maintenance. By charter amendment of March, 1909, the institution was placed under the direction of the board of directors of the Oakland Free Library, which assumed control in April, 1909.

Its first act was to elect a curator, choosing for that place Charles P. Wilcomb, who was already well known to them as an able and enthusiastic collector. It next accepted the use of the Josiah Stanford Mansion on the shore of Lake Merritt, which had been generously set apart by the park department as a repository for the collections. It was decided to remodel this residence and fit it up for exhibition purposes, pending the time when a modern museum building could be erected.

From April, 1909, to October, 1910, was given to the work of organization. The building was remodeled and equipped, and the collections cataloged and prepared for installation. In the autumn of 1909 Mr. Wilcomb undertook another trip to the East to collect supplementary Colonial material, and as much historical and natural history material as possible; for it had been decided to make the museum general in its character and sufficiently broad in its scope to lay a foundation for future development along several lines, also to prepare it to enter at once upon a career of activity in educational work.

On the evening of October 21, 1910, the museum was thrown open to the view of invited guests at a reception given by the directors of the library, and on October 22 it was opened permanently to the public.

On the opening day there were fourteen exhibition rooms and about twelve thousand specimens. The Colonial exhibit and the department of California ethnology were the best developed. There was one creditable collection of African ethnology, one room devoted to the Pacific Islands, one to American history in general, a small but well-chosen natural history department, and a children's room.

During the whole period of organization and installation, efforts were made to follow the best modern methods to make the museum as interesting and attractive as was possible within its resources. Realizing that a small museum cannot be of great value for research work, but must be devoted to popular interest, the founders kept this purpose constantly in view. The exhibits are arranged with scientific accuracy but as artistically as possible, with the aim of holding the attention of even the careless observer, and are labeled with descriptive matter, which is always given most careful thought to make it at the same time scientifically correct and simple in statement.

Such was our museum of five years ago, and such, on a somewhat larger scale, it is today. While we have more than trebled our collection and by the addition of an annex have gained much more space, yet we still occupy the same old residence, and still devote our energies to making the collections attractive and useful to the public.

During these five years the work of the museum has been determined by two general purposes; to build up the collections, and to make for the institution a firmer place in the favor of the community. The collections have been augmented by the generosity of many donors, who have given altogether over 19,000 specimens to the museum. But, as every museum worker knows, donations cannot be depended upon to build up a well-balanced collection, and fortunately we have been able to do some systematic collecting. This has been altogether of American antiquarian and Californian ethnological material, and these departments have been greatly strengthened. Once or twice every year Mr. Wilcomb has made short expeditions into the interior of the state in quest of ethnological material and has collected from four cultural areas, the Miwok, Pomo, Wintun, and Maidu. The last named is now the best represented tribe of any in our collections, and it was the source of considerable gratification to Mr. Wilcomb that such was the case, because the Maidu area has been less thoroughly studied than many others and it seems quite probable that our material from there may sometime be of distinct scientific value. Mr. Wilcomb was very fortunate also in securing first-hand information regarding the primitive life of these people by interviewing many old men and women, and has been present at some of the ceremonials of ancient tribal custom.

It was to him a satisfaction, also, to build up here, at the most western point of American civilization, a worthy exhibit illustrating American colonial life, because the history and traditions of the West are so different from those of the East that every possible source of knowledge is valuable in enabling one section to sympathize with and to comprehend the life of the other.

The results of our second line of activity, that of entering into the life and needs of the community, cannot be told so simply, nor so exactly, and yet they have been none the less real. Many visitors have been entertained in the exhibition rooms; we have entered into intimate relations with the schools in the instructing of children, and the museum is cooperating with certain scientific organizations, so that we hope in time to make it a center for the intellectual and cultural life of the community.

Visitors to the museum number from four thousand to six thousand per month, which shows a fair public interest, and we are convinced that most visitors are pleased with the exhibits and are in sympathy with the purposes of the institution.

With the public schools we have worked cooperatively from the first. A few weeks before the formal opening, the directors appointed as museum lecturer, a member of the staff who had had opportunity to become familiar with the collections. Soon after the opening, an invitation was issued to the school department to send classes for talks on subjects correlated with the regular course of study and illustrated by museum specimens. A few brave teachers from a nearby school responded by bringing the children and testing the possibilities of the plan.

At first the classes were taken into the exhibition rooms, but when from two to four hours a day were given to the lecture work, the need of more adequate facilities was felt. Two years ago an annex to the building was constructed, containing a lecture room with seating capacity of one hundred and fifty and an equipment for stereopticon work. This phase of our activity has grown considerably and has been fairly successful. In the five years about 19,000 children have been brought to the museum for formal lectures. By special arrangement, also, the lecturer visits some of the more distant schools, and in that way 16,000 more children have been instructed concerning the museum exhibits. However, as this work is wholly voluntary on the part of the teachers and principals, and as Oakland is a city of rather magnificent distances considering its population, we realize that only a small percentage of the school children are reached.

Many children come informally to the museum at the direction or suggestion of their teachers to study certain exhibits, and many have learned to bring specimens for identification or to ask for instruction from the museum staff. This phase of educational work is very little developed, however, because the staff is small and we have no members sufficiently well informed, who have the time to build up a docent service or general information department.

The lecture work has been extended to outside organizations, chiefly women's clubs, and the lecturer has spoken before many hundreds of people on various subjects illustrated by museum specimens.

The loan of exhibits has been encouraged in so far as our duplicate material and our time warranted. The schools demand chiefly natural history specimens and we have supplied them with about 1200 articles altogether. Small exhibits are often arranged for the Free Library or its branches, and material has sometimes been in demand for other uses, such as dramatic productions or pageants of educational nature. For such. we have loaned hundreds of objects, almost invariably from the Colonial or Indian collections.

Since its first organization the museum has added two small departments, one of California history and one a continuous exhibit of fresh blooming wild flowers.

The California history material is of value in educational work, for we have many calls for lectures on the early history of the state and of Oakland. And the fact that this was a feature of the museum undoubtedly attracted to the place persons interested in that line of research, and decided the question of making the museum the center of a recently organized local historical society. The society will give much attention to collecting and already has some material which will be displayed in the museum.

In January, 1912, a small exhibit of native California flowers was opened and has been maintained continuously ever since. At first it consisted of about twenty species displayed on a table near the exit door. More species were secured as the spring advanced, and in three months we were showing about 100, a number which fully occupied the space available for display. When an annex was added to the building, in 1913, one small room with skylight was set apart for this exhibit, and the specimens are arranged in glass or plain clay pottery receptacles on tables with graduated steps, so that 200 or even 250 kinds can be shown at once. They are labeled with scientific names and items of popular information, and the whole exhibit is becoming a resource for teachers of nature study in the public schools.

The flowers are found in the country immediately surrounding Oakland and within reach of its car lines. At first the assistant curator, who had some botanical knowledge, collected the specimens, but as the exhibit proved popular and increased in volume she was unable to give sufficient time to maintain it, and other members of the staff were trained to collect. Now one young man takes a half-day once or twice a week to make a trip with motorcycle and brings in whatever is in season. Through the summer months people who are in the Sierras or elsewhere on vacations often send material, which is a gratifying indication of public interest.

The exhibition of wild flowers was also the cause of bringing to the museum some scientists who had long desired to have a state botanical organization. When it was found that the museum was ready to cooperate and able to furnish a meeting place, the California Botanical Society was organized here. That was in April, 1913, and the society now has a membership of two hundred and fifty, including the foremost botanists of the state. It has regular meetings for lectures and discussions, and conducts many field excursions. It has founded a library and herbarium of its own recently, and is to issue a periodical devoted to the science of botany. Such an organization has a very wide field in California because the native and introduced plant life is so varied. The ecological formations are almost numberless, embracing all gradations from the desert of the Southeast to the unique areas of the giant Redwoods, and from the warm coast areas of the Southwest to the Alpine zones of the Sierras, and very few of these have been thoroughly studied.

The society has held several special exhibitions at the museum and is now so well established as to promise a continued activity, both in lines of popular interest and in researches of scientific nature.

To attract to the museum persons and organizations definitely interested in some line of research has been one of Mr. Wilcomb's aims, because he knew how broadly and mutually helpful such associations would be. And he hoped in time to make the institution a center for the best in educational activity of the community. Since our building is now so well filled that we have practically no more exhibition space, Mr. Wilcomb had planned to divert a part of the energies of the staff to developing the extension work in the public schools, and for this he had been collecting natural history and industrial material during the past year. He also planned to continue his intensive studies of primitive civilization of the California Indians, and hoped that he might prepare some reports of these studies for publication.

In 1912, Mr. Wilcomb spent five months studying the museums of the eastern United States and northern and middle Europe, in anticipation of the time when Oakland should be able to erect and equip a modern museum building. He collected a series of pictures representing upward of 200 museum buildings of the world and a great mass of classified data which embraces practically everything of special significance concerning modern museum methods in building, equipment, and organization. He also studied carefully the various policies pursued in different sections of the United States and Europe respecting the use of museum resources for the pleasure and profit of the public. It was his earnest desire to incorporate what seemed best and most practicable of all these methods and policies in the new museum which has already been advocated and for which tentative plans have been drawn. To the close associates who alone had glimpses of his deeper purposes, the knowledge that the full period came to his work before he realized this one ideal of a beautiful new museum for Oakland is fraught with deepest pain.

In conclusion, I desire to add a statement of the fact, so well known to all of you who were acquainted with our late curator and his work, that whatever the Oakland Public Museum is today, or may be in the future, is due to his efforts. His thorough knowledge of museum organization, his sound judgment in selecting material, and his artistic talent for effective display contributed to found an institution that won immediate favor in all circles.

A man of the highest ideals, he was never satisfied with less than the best that circumstances and resources allowed; his constant aim was to improve each department as opportunity offered, and the museum was originally founded so broadly that there are many avenues along which it may be expanded. To whomever it is given to follow him, is the honor as well as the duty of working out to its most perfect whole what he planned with so sane a judgment and established on so sound a basis.

Mrs. de Veer's paper was followed by a memorial account of Mr. Wilcomb, given by Dr. Walter Hough, curator of ethnology in the Smithsonian Institution. Dr. Hough reviewed his long acquaintance with Mr. Wilcomb and paid a warm tribute to his modesty and ability. He considered Mr. Wilcomb a born collector and spoke most highly of the lines on which the Oakland Museum has developed under his curatorship.

The President then called upon the Secretary to review the history and purposes of the Association for the benefit of western members who have not had an opportunity of keeping in close touch with its development.

Secretary Rea apologized for the necessity of reiterating matters which have become an old story to those who have attended all the meetings of the Association, but expressed his conviction that, inasmuch as these matters refer to problems in the policy of the Association which have not yet been entirely solved, it is necessary that they continue to be presented, especially at this meeting in a part of the country which has hitherto not been intimately concerned in them. He pointed out that it is but natural that the officers of the Association should feel the pressure of these problems more keenly than other members, since the burden of making the conventions successful and of providing for the general conduct of the work of the Association falls chiefly upon the officers. He then reviewed the history of the Association, showing that it originated in a desire for closer personal contact among museum workers, that its meetings from the first have been most successful in this respect; and that the desire to publish the proceedings as a matter of permanent record and in order to make them accessible to a larger circle had introduced a serious financial problem. He called attention to the fact that only a small proportion of the members can attend all the meetings and that a national association should find means of rendering broad service to all museums in the country. In order to make it possible to outline a proper program, the Association undertook the publication of the Directory of American Museums, which for the first time made accessible general information as to the collections and activities of approximately six hundred museums. The problems of the Association since the publication of the Directory in 1910 have been chiefly concerned with the endeavor to assist in the solution of the broad problems of museum development made evident by the Directory. He explained that the ability of the Association to carry out effectively the many suggestions made at the meetings regarding desirable activities has been largely restricted by the inadequate funds available, emphasizing at the same time the imperative necessity of finding ways of accomplishing these objects. He showed how large is the field of common interest among museums of all kinds and how great is the need of free interchange of ideas among them all. In closing, he expressed his conviction that the American Association of Museums can fulfill its function only by becoming a clearing house of museum knowledge, museum methods, and museum practice, and by extending its service in immediately practical ways to all kinds of museums in all parts of the country, to the end that the Association shall become indispensable to all museum workers, thus assuring itself of a membership large enough to defray the expenses of its work.

The Association then proceeded to the election of officers, with the following result:

President (*elected in 1914; term expires in 1916*):

Oliver C. Farrington, Curator of Geology, Field Museum of Natural History, Chicago, Ill.

Vice-President:

Henry R. Howland, Superintendent, Buffalo Society of Natural Sciences, Buffalo, N. Y.

Secretary:

Paul M. Rea, Director, The Charleston Museum, Charleston, S. C.

Assistant Secretary:

Laura L. Weeks, Secretary to the Director, The Charleston Museum, Charleston, S. C.

Treasurer:

W. P. Wilson, Director, The Philadelphia Museums, Philadelphia, Pa.

Councillors, 1915–1918:

Benjamin Ives Gilman, Secretary, Museum of Fine Arts, Boston, Mass.

Herbert E. Sargent, Director, Kent Scientific Museum, Grand Rapids, Mich.

Members of Commission for Museum Cooperation:

George F. Kunz, Honorary Curator of Gems, American Museum of Natural History, New York City.

Edward K. Putnam, Acting Director, Davenport Academy of Sciences, Davenport, Iowa.

The following resolution was then unanimously adopted and it was directed that it be referred to the Council with the request that it be forwarded to the proper authorities to secure action:

> Whereas, By the resolution of the Hague Convention of 1907 the signatory Powers agreed (Art. 56) that—
>
> > All seizure of, destruction or wilful damage done to institutions dedicated to religion, charity and education, the arts and sciences, historic monuments, and works of art and science, is forbidden, and should be made the subject of legal proceedings.
>
> *Therefore be it Resolved*, That the American Association of Museums urges strict adherence on the part of all the signatory Powers to these pledges in order that the priceless treasures thus specified, which are a common human heritage and the destruction of which can serve no permanent useful purpose, may be preserved to the lasting enjoyment and benefit of mankind and that the Association appeals to the nations now at war to avoid all actions that will make more difficult at the close of the war, the restoration of friendly relations and cooperation among museums and art galleries.

The subject of the next place of meeting was then taken up and the Association voted to meet in the city of Washington about the 15th of May, 1916. Attention was called to the fact that the American Federation of Arts will also meet in Washington at this time and it was suggested that arrangements be made for as close cooperation between these two organizations as possible.

The Association then adjourned to the Hotel Oakland, where it was handsomely entertained at a luncheon tendered by the City Council of Oakland. At the conclusion of the luncheon ex-Mayor Frank K. Mott gave a most interesting address in which he described his first acquaintance with Mr. Wilcomb and reviewed the origin and development of the Oakland Public Museum and its relations with the city, giving his audience a vivid impression of his broad conception of the value of museums and of his strong personal interest in the Oakland Museum.

After luncheon the Association was given an automobile trip about Oakland and vicinity, stopping at the Piedmont Art Gallery, where the members were shown through the galleries by Mr. Frank C. Havens and by the curator of the Museum, Mr. Richard L. Partington. The party was then taken to the University of California and after walking through the grounds and visiting the Greek Theater, gathered at the Museum of the Department of Anthropology where an inspection was made of the collections. Prof. T. T. Waterman gave a demonstration of Ishi, the interesting Indian who is the sole survivor of a tribe which has never been contaminated by white influence. Ishi demonstrated his method of fire-making and of chipping arrow points. The Association then inspected the Museum of Vertebrate Zoology under the guidance of Dr. Joseph Grinnell and Dr. Walter P. Taylor, after which it was entertained at dinner at the Faculty Club.

SESSION OF WEDNESDAY, JULY 7

Evening

The meeting was called to order in California Hall at the University of California by President Farrington at 8 p.m.

The following paper was presented by Prof. Homer R. Dill, director of the museum exhibit of vertebrates at the University of Iowa:

BUILDING AN EDUCATIONAL MUSEUM AS A FUNCTION OF THE UNIVERSITY

It is within the memory of some of our older men that the greatest museums of this country had their birth, and during the earlier stages of their development little was done aside from filling in the systematic series, which was primarily for the use of the scientist in comparing species, one with another, and meant nothing to the public but dust, monotony, and terrible names.

The idea of an artistic educational museum did not receive much attention from the men who first started these zoological collections as their minds were devoted to research work and hence they failed to see the value of the artistic groups and descriptive labels that interest and educate the masses of people. It is for this reason that the museums were very slow in adopting and developing the habitat groups. It is natural that a man who devotes his life to the intensive study of a subject loses interest in other subjects. Darwin lost his appreciation for music and other fine arts although he was said to have been very fond of them in his younger days.

In many of our educational institutions the zoological museum falls to the care of the professor of zoology who, as a rule, has more than he can do to conduct his classes and carry out his routine work. It is taken for granted that his knowledge of animal life must necessarily qualify him to conduct a museum. We have but to visit the various museums connected with colleges and universities to be convinced that this is a decided mistake.

From the men who know and would really like to see something worth while we get this inquiry: "Where can we find an educated man to do our museum work?" The reply has always been: "The few who can do this work are not available." And then the question comes: "Where are the young men? Why are they not going into this work?" Right here is a matter for the serious consideration of museum directors. It is they who must present the opportunities and attractions of this work and assist and encourage the young men to qualify for this profession.

I am told of a young man who was very much interested in mounting birds and mammals; he really loved the work for the art in it. He loved the study of the live animals in their natural haunts, but most of all, he loved to faithfully reproduce these things as he saw them. This young man spent many hours in the woods and fields when other boys of his age were pleasure-seeking in other ways. His mounted specimens were superior to anything of the kind that had been done in the place at that time; they were exhibited at a county fair where they attracted the attention of a museum curator who later called at the young man's home to see him.

The boy's parents were worried because he was spending so much of his time with this work, and so talked with the caller in regard to the matter. His reply was that the work might be the means of interesting the boy in zoology, but that the preparing of zoological specimens and exhibits was beneath the dignity of a man of science. Thus the young man's hopes were crushed and, in lieu of mounting animals, he painted them, in time becoming eminent as a painter of animal life. His paintings have convinced many of us that, had he applied his rare ability to the work he first chose, the museums would have benefited thereby. He was a born scientific observer and an artist. I believe that he could have produced museum exhibits second to none in the world.

Another case was called to my attention by a member of this Association who is deeply interested in developing the educational museum. A college instructor who had been doing some good work in zoology came to this man for advice relative to taking up museum work as a profession. After carefully considering the matter it was decided that the man should go to one of our larger museums and consult with the curator in regard to the courses he had better take to fit him for museum work.

It was nearly two years later that my friend found this man teaching German in an eastern college. He asked him why he did not stay with the museum and his reply was that he did not see how the work the curator had laid out for him could ever accomplish his purpose. "And pray, what was the work?" inquired his would-be benefactor. "The study of the intestinal parasites of certain South African ants," was the angry reply.

Ladies and gentlemen, do not misunderstand me. It is not my intention to criticise. It is rather in a spirit of helpfulness that I call your attention to the very grave danger of over-specialization. We must not lose sight of one of the valuable functions of the museum, namely, the education of the general public by artistically prepared groups that are at the same time scientifically accurate. Are we not in danger of losing entirely the museum as a strictly scientific institution? In these days of popular interest in the museums there are men who have money to devote to popular artistic museums, and I believe that unless some of our scientific men take a broader view of the scope of the museum, and make a place for the artistic educational work and the trained worker in this field, such exhibits will find their way to the front not as accessories of research collections, but rather as popular zoological art museums where the scientist is an accessory used rather as a handy man to whom doubtful specimens may be referred for identification. This is not a dream of fancy, but a fact that can be proven by two marked cases, of which I have knowledge.

Let us consider a typical museum of a few years ago—not a hypothetical case, but one that is genuine. The curator by years of hard work assembled the skins of many birds and mammals from far and near. He took one of the mammal skins to the taxidermist's laboratory and showed it with pride, intrusting him to mount it nicely as it was collected in a distant land many years ago by the curator himself.

Upon examination the taxidermist found that the skin was badly grease-burned, but he dared not say a word as the skin was prepared by the curator. The taxidermist had never seen this animal alive and so did not know that the back had a hump on it. Had it a long neck or a short one? Were the eyes yellow or red? Did it step flat on its foot or on its toes? The curator thought it stood on its toes but was not sure, and the other points he could not remember.

The taxidermist was a laboring man who had picked up the little he knew partly in the old world and to some extent in this country. He proceeded to tan the skin. He did not know that the tan liquor he used for everything turns some kinds of brown hair to a light red tint. His methods were all secret; visitors were never allowed in the work room, the door of which was always locked. He was a peculiar man working at a strange trade more or less surrounded by mystery. He might tell you of some wonderful method he had that rendered his specimens immune to all attacks of insects, and to the ravages of time and age.

After a while the specimen was finished. At intervals the curator visited the workroom and told him how the beast looked when alive twenty years ago as he remembered it. The curator was satisfied, and soon after this animal was mounted a visitor asked to see it as he had recently collected one in the same locality and wished to compare the two.

"This animal,"remarked the visitor, "is not the same color as mine. My specimen is dark brown, while yours is reddish. The contour of the back is entirely different as you will see by the photograph I have made. The eyes are brown while these are yellow. Furthermore, my animal stepped flat on its foot as I observed by its tracks in the mud, while yours is standing on its toes, and its neck was much shorter and its back had a decided hump. The toenails are about the same but otherwise there is little resemblance. I wonder if this is the same species. Have you the skull? Yes, the skull is here and proves it to be the same species, but not recognizable in the form of a mounted specimen."

Who is to blame? Not the taxidermist for he did the best he knew. Is it the curator? Is a specimen that is so unlike the real animal of any scientific value, and is it even interesting to look at? It is cracking about the nose and eyes and one ear is splitting. It must soon go to the attic and eventually to the dump, although it is no longer possible to get another specimen of this species as it has become very rare. The curator becomes alarmed at the loss of this valuable specimen and looks over his collection. Now that his attention is called to the matter, he finds that many of the skins are in the same condition and at last he consults an expert who informs him that the major part of his collection is without value and that it is only a matter of a few years before it will all have to be discarded. A few skins, however, may be saved if placed in the hands of an expert at once. This collection of skins might be worth thousands of dollars had it been properly preserved.

It is hard for this man to lose the collection of a lifetime; it is hard for him to realize that his museum is old-fashioned and that his exhibits provoke a smile from those who are up-to-date, but all this is inevitable.

Let us look further into the case of the curator. He has written many papers that have been real contributions to science. It is evident that the major part of his life has been devoted to this work and that the museum is a sort of hobby. Where did he learn to prepare skins and what experience has he in museum work? He frankly admits that he knows nothing about modern methods. As a boy he called himself a taxidermist, having picked up a little information from books on the subject. He depended largely on poisoning the skins heavily and letting it go at that.

Many of us are familiar with skins that have been prepared in this manner, permeated with grease, saturated with poison, penetrated by dermestes and incrusted in a residue of salt, alum, and arsenic.

Contrast this with the work of a trained man who has seriously contemplated the study of museum work. He goes into the field prepared to make every possible note relative to the animal's appearance and all its habits. Photographs are made of the animal alive, if possible, and in every case before it is skinned. A plaster cast of the face, and sometimes of the whole side of the animal, is made; many measurements are taken; and color copies are secured of the eyes and other parts that fade after death. A painter accompanies him to make a painting of the actual place where the animal lived. The plant life, the soil, and the rocks are carefully noted, and specimens are preserved for reproduction in the group.

All of the work is done by modern methods which are the result of careful scientific study. The skins are degreased and preserved so that they may be tanned without losing any of their original value in color, texture, or lasting qualities. Local conditions must be met and often tax the skill of the expert to the utmost. For example: My friend Mr. Carl Akeley states that the hairless skins of some of the African mammals were so affected by the insects and changes of temperature that he was obliged to preserve them in a dry state after removing the grease and excess of tissue. The skins were later enveloped in strips of cloth dipped in melted beeswax secured from the wild bees that are abundant there. After being sealed airtight they were packed in boxes. If not treated by this process a portion of the outer surface of the skin peeled off and much of the original character was lost thereby.

After all of the necessary material is collected and cared for the man in charge proceeds with the design of his group, which, in some cases, is modeled in miniature. In making up the group and posing the specimens he does not simply put the animals in natural positions, for they might be put into a thousand different positions, all of which would be natural and yet not be pleasing. It is therefore a matter of choosing an artistic pose for the specimens and composing a pleasing group that makes the work a success.

When this man mounts his specimens he knows just what to do. Every little detail has been scrutinized. There is not the slightest thing peculiar to the animal with which he has not become familiar or has at hand in his notes. Who would presume to tell this man how this specimen should look?

When all is finished the animals lack only movement to make them animated. The plants and other accessories are beyond criticism, and best of all the work is permanent—a beautiful work of art that will last for hundreds of years to delight and educate the people of many generations. It will remain long after the executor has gone to his reward, and these species of animals have passed forever from the earth.

What does the educational museum mean to the university? By the educational museum I do not refer to the accumulations of material that are to be found in nearly all of our colleges where the scientists have dumped the collections they have made on their various trips, together with the gifts from friends of the institution. If you will visit the museum at the State University of Iowa I think I can show you what it means. I can show you what was once a typical old-fashioned museum which served its purpose in those bygone days, still retaining enough of the old collection and groups to contrast glaringly with the modern exhibits with which the old material is rapidly being replaced.

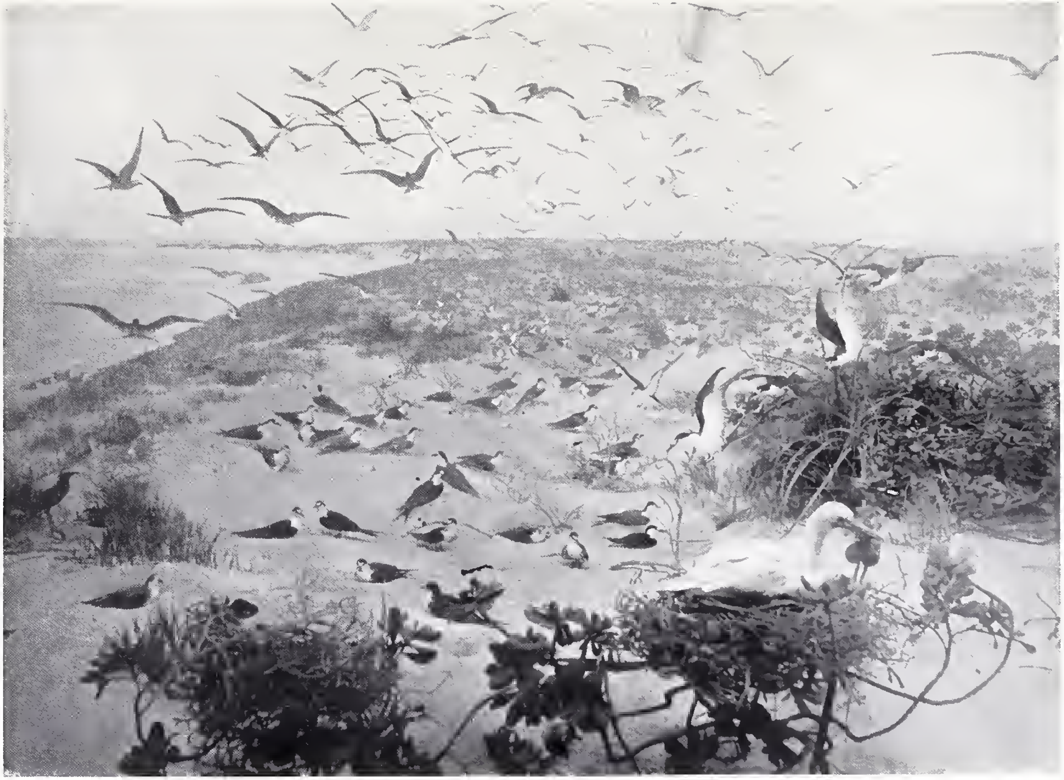
When our Laysan Island Exhibit was opened to the public last June over two thousand people visited it in less than two days. If you chance to be in the museum at any hour of the day you will see groups of people looking at the exhibits, reading the descriptive labels, and discussing what they see. Who are these people? Some of them are students, some are farmers, others are members of nature clubs from neighboring towns visiting the place in a body, and still others are mothers with their children. Here are all kinds of people! Students, men of science, and people who would never read a book or go to a lecture are here learning something. It has been said that an open book is a challenge and that a picture is an assault. Here we have something that is still more.

There is not a department in the university that begins to reach and educate the people as does this type of museum. It is also a great advertising medium for the institution, being one of the tangible things that can be shown to visitors. Since the opening of our Cyclorama, special excursions from different cities have come to see it.

About twenty years ago I thought I saw a new field of opportunity for young men. Since that time I have worked with this vision in view and now, ladies and gentlemen, I shall announce that there is a college course designed to fit men for museum work. Last June we graduated from the Liberal Arts College of the State University of Iowa, what I believe to be the first man in the world who was specially trained in college for museum building.

The first year of this course is devoted largely to the usual fundamental college work; free-hand drawing, modeling, and museum laboratory work are supplementals. After the student has done the required amount of fundamental work he is allowed to major in the studies that seem most suitable for one who is to make the building of museums a life work. He has a large practical experience in the museum laboratory where all kinds of specimens are mounted. New methods are continually being worked out for his benefit. He is taught to handle old and difficult skins. He may take up work in chemistry, modeling, painting, drawing, and in fact any study that is offered by a large university. Eminent men on these various subjects are always willing to aid him in any way possible. His work in fine arts trains his eye to see things as they are and to reproduce them faithfully. His chemistry is useful in tanning and preserving skins.

The experience I have had with the work so far encourages me to believe that a young man who has faithfully pursued this course for four years, graduates from college with a well-trained mind, and with



SECTION OF LAYSAN ISLAND CYCLORAMA REPRESENTING SOOTY-BACKED TERN ROOKERY. THIS SECTION IS ABOUT ONE-TENTH OF THE ENTIRE CYCLORAMA WHICH IS 138 FEET LONG AND 12 FEET HIGH. GROUP COMPOSED AND EXECUTED FOR THE STATE UNIVERSITY OF IOWA MUSEUM BY PROFESSOR HOMER R. DILL. BACKGROUND PAINTED BY MR. C. A. CORWIN

an appreciation of art, literature, and science. He is trained to do something worth while. He knows the work of museum building from the bottom up. The methods this man has learned are such that he can direct an assistant to perform the major part of the manual work while he is free to assemble, plan, and compose it.

Think of the value of such a man to any institution where there are zoological specimens to be collected and cared for! Think of the exquisitely prepared skins filed away that may be kept indefinitely, with all the proper data, and the artistically mounted groups that take the places of those old semblances to nature! What a relief to the professor and the curator who wish to devote their time to special lines of work!

Changes cause some disturbances in an established routine. Tearing down an old building must disturb the owl that nests in the attic; perhaps destroy a beautiful ivy that has embraced its grimy stones for many years. But what is to come? A fine new structure with its modern improvements; its elevators to replace the hard winding stairs; its large windows with plenty of light and air. The owl will find a new site for its nest and the ivy will send out new vines and soon all will agree that it is for the best.

We have before us a man of a new calling; a man whose work is as dignified as that of a doctor or a professor. Ought we to call this man a taxidermist and give him a little dingy room in the basement and expect him to fill a position that previously has been filled by a laboring man? It is the older museums that I ask to make a place for these men. The new museums will, I think, be looking for men of this class. We should remember that these men are scientific; that the work done in the field and the observations made by them will be contributions to science.

The smaller museums have insisted that they do not have enough work to keep one man busy, and that they cannot afford to pay an adequate salary for such services. Dr. B. H. Bailey has suggested that where a number of smaller museums are in close proximity they may employ one trained man who can oversee the work and have at each place a non-technical assistant who shall work under his direction. By this arrangement excellent results may be obtained at a minimum cost. There is no danger of over-crowding the field at present. We now have a number of places waiting for our young men. We do not expect at Iowa to turn these men out by the hundred or by the dozen. Out of an entering class of thirty in this department, thirteen were retained as possible; the remainder were advised to take work in other departments better suited to their abilities. At the close of the year we find seven whose work is promising; of the seven two are not able to return for their work next year; the remaining five will probably graduate three years from now; two years hence three men will graduate if they continue to do as they have been doing.

Thus we have the educational museum as a function of the university and the university as a builder of educational museums.

Secretary Rea.—"I have listened with the greatest interest to Professor Dill's account of his work in the training of museum curators, for I am hopeful that it may contribute to the solution of the difficult problem of college museum development. If we can have a section where college museums are numerous it seems to me that much may be done to revive interest in the college museums and to justify college authorities in supporting such institutions."

Miss Margaret T. Jackson (Minneapolis Institute of Arts).—"I was particularly interested in hearing what Professor Dill had to say because I have been so much interested in the work that is being done in Wellesley College in the training of art museum assistants. This course has been given at Wellesley for three or four years and has graduated several students eminently fitted for positions. For some reason, however, our museums do not seem ready to cooperate with the institution which is giving this very necessary training, and I shall be interested to know whether Professor Dill will be able to find places for his students after they are trained."

Professor Dill.—"Up to the present time we have received applications for more men than we have been able to supply. At least three institutions are on the waiting list and are ready to take young men who have completed the course at Iowa, at a salary of not less than $1200 at the start. I have two of these propositions in writing and so have been able definitely to promise my students positions if they make good. I am chiefly concerned with making a success of my course and care more about getting results than about having a large number of students. I encourage only those to continue who give evidence of real ability."

Mr. Henry L. Ward (Milwaukee Public Museum).—"It seems to me that the practicability of such a school depends almost entirely on the selection the teacher is able to exercise. Many students who meet the requirements for graduation from schools of law have no conspicuous ability to practise law; so if all who apply for admission to Professor Dill's course are allowed to take it, many of indifferent ability will have to be graduated. The prestige of the school will depend, however, upon the number of good men it trains. I would like to know whether Professor Dill can decide who shall and who shall not take his course."

Professor Dill.—"I never tell a student that he cannot take my work. I simply advise him not to take it. I have never had any difficulty so far in turning aside any student who does not impress me as being fitted for the work. We have, however, the privilege of limiting our classes and thus can select the best students. I endeavor to make such a selection both for the success of my work and as a matter of fairness to the student."

Dr. William T. Brigham of the Bishop Museum in Honolulu expressed his preference for taking untrained assistants and developing them along the lines of his own needs and of their special ability. He cited a number of instances in which he had taught untrained men to do a high grade of technical work, and questioned whether any training school is either necessary or desirable. In the discussion which ensued a number of speakers expressed a very keen sense of the need for trained assistants and the feeling that only in unusual instances can museums train them to advantage.

Prof. Junius T. Henderson, curator of the University of Colorado Museum, then presented the following paper:

A PIONEER VENTURE IN HABITAT GROUPING

Those who visited the Centennial Exposition in Philadelphia in 1876 may recall the exhibit of Colorado birds and mammals installed in the Kansas-Colorado building. The greater part of the material was mounted in the ordinary way and installed on shelves in ordinary cabinets, and would not in itself have attracted much attention. The distinctive feature of the exhibit was a mountain in miniature, with a small stream rushing down a canyon and a lake nestling at the base of the mountain. The mounted animals were arranged on the mountain slope and adjacent valley at altitudes corresponding in a general way with their habitats—mountain sheep and ptarmigan at the top, bison and antelope on the plains, and so on. On a card suspended near the entrance to a cave were printed the words 'Woman's Work.'

The exhibit would doubtless look crude indeed if it could be directly compared now with some of the magnificent habitat groups in the best modern museums of America, groups which are the result of accumulated knowledge of generations of skilled preparators and made possible by large scientific and financial resources. But considering the time and circumstances under which the work was done, this pioneer effort was well worthy of the high commendation it received, not only from the general public, but also from naturalists whose opinions command high respect. The collection was for some time displayed in rooms over an old store at the corner of Twelfth and Pearl Streets, in Boulder, Colorado. There it was visited by several notables, whose impressions are preserved for us in the public press of the time. Among those representing the layman's point of view was Helen Hunt Jackson, who wrote an interesting account of it for the *New York Independent*, from which the following paragraph is quoted:

> The first thing upon which my eyes fell was a black-and-tan terrier, lying on a mat. Not until after a second or two did the strange stillness of the creature suggest to me that it was not alive. Even after I had stood close by its side I could hardly believe it. As I moved about the room, I found myself looking back at it, from point after point, and wherever we went its eyes followed us, as the motionless eyes of a good portrait will always seem to follow one about. There was not a single view in which he did not look as alive as a live dog can when he does not stir. This dog alone is enough to prove Mrs. Maxwell's claim to be called an artist.

She also wrote an illustrated account of the final exhibition for *St. Nicholas*, in 1876.

Dr. F. V. Hayden, while in charge of the United States Geological and Geographical Survey of the Territories, examined the collection in course of preparation in 1875, and is quoted in the *Boulder News* in high praise of the results of Mrs. Maxwell's work.

Later the collection was removed to Denver, where it received many additions. When plans for a Colorado exhibit at the Centennial Exposition were under way, arrangements were made to carry the entire collection to Philadelphia. There it was installed under the direction and largely by the personal work of Mrs. Maxwell. In Philadelphia and later in Washington it was visited by scientists of note, including Dr. Elliott Coues and Dr. Robert Ridgway. The former prepared an annotated list of the mammals in the collection, consisting of 47 species, and the latter prepared a list of the birds, 234 species. These lists were published as an appendix to Mrs. Mary Dartt Thompson's "On the Plains and Among the Peaks, or How Mrs. Maxwell made her Natural History Collection," 1879. The bird list also appears in the second volume of *Field and Forest.*

Dr. Coues, in the introduction to the mammal list, says:

> My repeated visits afforded me both pleasure and instruction. I was glad to see a collection of our native animals mounted in a manner far superior to ordinary museum work, and to know that there was at least one lady who could do such a thing, and who took pleasure in doing it. While the collection embraced several specimens of high scientific interest, I regarded it as one of the most valuable single collections I had ever seen—far beyond the scientific value which any collection of the animals of a locality may possess, it represented a means of popularizing natural history, and making the subject attractive to the public; the desirable end being attained by the artistic manner in which the specimens were mounted and grouped together. Faulty taxidermy has a great deal to do with creating misconceptions of nature in the public mind, and with rendering the study of natural history unattractive. The best results may be hoped for when such skillful and faithful representations of nature as those of Mrs. Maxwell, come to be recognized as a means of public instruction.

Dr. Ridgway, in the introduction to his list of birds, says:

> The collection consists of excellently mounted specimens, many of which were procured by the lady herself, and all were put up by her hands. It illustrates very fully the avian fauna of Colorado, while it bears testimony, not only to the great richness and variety which characterize the productions of the new state, but also to the success which has crowned the enthusiastic and intelligent efforts of a 'woman naturalist.'

It is significant that the work of procuring the material and preparing it for exhibition was very largely the work of a woman almost without financial backing and with very little technical training; indeed, at a time when the very best technical training would not compare at all favorably with the modern preparator's art. It is much more significant that it was one of the earliest efforts in America to exhibit the animals of a large area in an imitation of their natural environment. This affords the justification for taking the time of this Association and encumbering its records, "Lest we forget!" Forty years have elapsed, and those who are familiar with Mrs. Maxwell's work at first hand are rapidly dwindling in numbers. The published accounts of her work are meager and obscure, hence apt to escape the attention of future museum workers. Not the least important phase of an art or science is its history, and Mrs. Maxwell's Centennial exhibit is part of the history of museum work. Without any attempt at demonstration, one can scarcely doubt that such an exhibit at such a time must have at once stimulated work upon habitat groups. The extent of its influence upon modern methods there is no way of accurately measuring, but even those who never heard of the estimable lady are perhaps to a greater or less extent reaping the results of her stimulating example.

In the early seventies, while the material for the Colorado Centennial exhibit was in course of collection and preparation, with no thought of its ultimate destination, Colorado was a sparsely populated territory, just beginning to clamor for admission to the sisterhood of states. Denver contained a few thousand people; Boulder was a small village. In this village, a mile above sea level, at the very base of high, steep foothills which there rise abruptly from the plains, backed by the higher but no more rugged peaks of the Rockies, lived and wrought, in a very humble way Mrs. M. A. Maxwell. She had received a little training and experience in taxidermy at Baraboo, Wisconsin, prior to 1868, and was interested in nature and filled with a desire to impart a knowledge of natural history to others by means of object lessons. So she began to collect and mount the birds and mammals of the region, together with a few of the reptiles. One collection was sold to Shaw's Gardens at St. Louis for a small sum, whereupon she began another, which finally was taken to Philadelphia.

The remainder of the story is a sad one. Mrs. Maxwell was without means, and from all accounts her precarious sustenance during the stay in Philadelphia was derived in part, at least, from the sale of photographs of herself and her exhibit. She had hoped to sell the collection for enough to reimburse herself and in a measure recompense herself for the years of labor. In this she was doomed to disappointment, and after a few years of continued poverty, she passed away, financially unrewarded.

I have frequently been asked by naturalists and others what became of the material Mrs. Maxwell collected and prepared. In the effort to answer that question the following information has been obtained, which should be placed on record.

The St. Louis collection was of course not equal in workmanship to the later one and by no means so extensive. It received little care and part of it, at least, was exposed much of the time to direct sunlight, and so is now of little value.

The Philadelphia collection was taken thence to Washington, where it was repeatedly visited by Coues. Thence it was removed to Saratoga. A large portion of it was destroyed by fire, but I cannot now recall at which place the fire occurred. The remainder of the material passed into the hands of a curio collector, who took no care of it. A friend who examined it a few years ago at my request reported that it had been stored in a damp place and was then practically worthless. Hence the effort to obtain it and preserve it in the University of Colorado as a matter of local interest was abandoned.

Sensational reportorial references to Mrs. Maxwell as "The Colorado Huntress," in 1876, coupled with the statement that she obtained much of the material of her exhibit herself (the exhibit including the large mammals such as bear, deer, cougars, etc.), may lead to an erroneous impression. She was not a coarse, angular, western giantess, imbued with a desire to kill. Acquaintances have described her as slight, not strapping; refined, not coarse; modest, not brazen; tenderhearted, not bloodthirsty; and, to quote one who knew and loved her well, "as shy as one of her own weasels." True, she could shoot and did shoot—not because of a thirst for innocent blood, for she loved the creatures whose lives she took; but she was determined to bring about results pleasing to her artistic and nature-loving eye and instructive to those who were unacquainted with wild life in its native haunts. She early discovered that the only way to understand the habits and poses of animals was to observe them in their natural environment; that the best way to get just the material she needed, at the proper time and in the proper condition, was to go after it, so in order to indulge her passion for the finer part of her art she undertook the disagreeable tasks also.

The Association then adjourned.

SESSION OF THURSDAY, JULY 8

Afternoon

The Association proceeded by train Thursday morning to Palo Alto, where it was received by Mr. Harry C. Peterson of the Leland Stanford Junior Museum and by a delegation from the Chamber of

Commerce of Palo Alto, which took the members in automobiles about the town and vicinity. The remainder of the morning was devoted to an inspection of the university buildings and of the Leland Stanford Junior Museum. The Association was then entertained at luncheon by the Chamber of Commerce.

The afternoon session was called to order at Stanford University by President Farrington at 2 o'clock.

President John C. Branner of Stanford University extended a very hearty welcome to the Association. He recalled the fact that Stanford University owes its origin to the interest in collecting shown by Leland Stanford, Jr., in whose memory Stanford University was founded. President Branner concluded his welcome with an expression of his belief in the educational value of museums and his desire to see Stanford University provided with the best and most useful museum collections.

President Farrington responded to the hearty welcome extended by President Branner and expressed the pleasure of the Association in visiting the university and its thanks for the hospitality extended.

Dr. A. R. Crook, curator of the Illinois State Museum, presented the following paper:

THE MUSEUM AND THE CONSERVATION MOVEMENT

The "arts of peace and the arts of war" are closely related at Springfield since the Illinois State Museum of Natural History is housed in the arsenal and visitors who come to study the birds, the fish, the mammals, the trees, the minerals, and the fossils of the state, may see also the coming and going of men clad in khaki, the hall in which they drill, and may hear the bugle call. But though so intimate in physical relationship, the museum and the arsenal *in ideals* stand at extremes. The arsenal represents war, which is primitive, destructive, costly, and horrible. The museum represents peace and the preservation of the beautiful and valuable works of nature and of man.

Museums from the beginning have preached conservation of natural resources. It may be said that they were the earliest and are now the most consistent representatives of this idea though the fact may not be generally appreciated. No mention of this fact has been made in our *Proceedings* as far as I am aware and in general no effort has been made to call attention to it. However, the prominence which the idea has obtained within the last seven years would not have been as great were it not for the long quiet work of museums in this line, as well as for the White House conference held in Washington in 1908 at the call of the then president of the United States.

You remember how memorable was that conference because of the fact that men of science, men of business, and men of law sat down together to consider the present and future welfare of the people of the country. Their deliberations brought the subject to the foreground of human consciousness.

You remember the conferences which followed at Seattle, St. Paul, and Kansas City and doubtless may have read the interesting addresses made at those meetings. The speeches of the governors were largely from the view-point of men with their ears to the ground to ascertain and report public sentiment on the subject. The business men usually considered the proposition from the view-point of dollars and cents. The men of science furnished the largest number of facts concerning present conditions and future possibilities. The ladies were most interested in the effect of conservation on the welfare of the race.

As a result of these conferences the man on the street has become interested in the subject and this is an opportune time for museums to make special exhibits emphasizing it. On general principles I believe it is a good plan to make special exhibits. Often funds for the purchase of new exhibits fail. Increase of space for exhibition is wanting. The museum becomes a valley of dry bones waiting for the reviving breath of a vital idea. If old materials are cleaned, reassembled, and grouped to emphasize an idea, the old place takes on new life.

One of the best of special exhibits is one which represents the conservation idea. It can be made up in many lines. It might be well to begin with the subject of forest fires since it was the appalling loss caused by forest fires which fired the imagination of Pinchot and led to the White House conference mentioned above. By the use of models the destructive effects of forest fires and of improper methods of lumbering can be illustrated in the museum. Relief maps of certain localities may be readily prepared by enlarging by photography the topographic sheets obtainable at the United States Geological Survey. Nails of various lengths are driven into pine boards or flush panels upon which these blue print enlargements have been pasted with a waterproof paint. The nails give the elevations and the correct relief is obtained when the whole surface is properly covered with papier-maché or more quickly and cheaply by a wood pulp plaster. Attention can be called to the deforested areas with their gullied hills, choked streams, and widely desolated country. The use of photographs and charts and simple statistics emphasizes the appalling destructiveness of forest fires. The effects of stream pollution may be indicated on these same maps by painting the rivers, which are ordinarily represented in blue, with a brown or red tint to indicate where manufacturing plants or sewers pour in their contaminating materials.

The passing procession of animals marching into oblivion makes an impressive exhibit. Here may be grouped the larger mammals, the birds, and fishes—those which are dwindling, those that have recently disappeared (within the last fifty or one hundred years), and those that became extinct in quaternary, tertiary, cretaceous, or preceding geological periods as far back as the record runs. No portion of the conservation exhibit is more attractive than this since probably a larger number of visitors in the ordinary museums are interested in animals and in the vistas of the geological record than in any other department of natural history. I am glad to note that a number of museums have been devoting considerable attention to this work.

Wastes in mineral resources can be illustrated by the use of minerals themselves and by the employment of models. The use of the former requires less technique and expense and can be made quite effective. For example, a cube of coal to show the amount in an acre of typical coal land; another cube representing the amount obtained with best methods of mining; another the amount by the worst methods; another to indicate the quantity lost in transportation; another the amount yielding heat units; etc. In this kind of work the field is limitless.

Models are very attractive and understandable—models of mines, of machinery, of locomotive transportation, of the wasteful stoker, of the careless kitchen maid who uses two pailfuls of coal where one would do, thus wasting possibly ten million daily in the United States.

Similarly, waste in gas and oil production can be presented in a striking manner—measures, models, and pictures being employed to show waste in field, in transportation, in consumption. The wisest and most remunerative use of oil, namely, as a source of lubricants, dyes, drugs, and various refined products should be emphasized.

A multitude of other mineral industries can be shown along the same lines.

Then there is the great subject of soil conservation which appeals not only to agriculturists but to every one who is confronted with the high cost of living. This exhibit would be composed of items such as the following: specimens to show sources of the four elements most essential to plant growth (nitrogen, potassium, calcium, and phosphorus); things which cause contamination of soils; the destructive agents; a map whose surface is covered with characteristic soils; samples of the soils with analyses; and mechanical devices to prevent erosion and to secure proper cultivation. These things would form a very instructive exhibit.

The most important of all conservation, of course, is the conservation of the human race. Care of forests, rivers, soils, and minerals is important chiefly because of their relation to mankind. The greatest of all resources is the brains of the people. Money spent in increasing intellectual alertness will bring a larger return to the state and the nation than that spent in any other way. Museums are ideal institutions for this purpose since they appeal to the illiterate as well as to the learned, to the young as well as to the old, to the prepared as well as to the unprepared.

Think what could be accomplished in an intellectual way for people who have missed school advantages, by 500 institutions of this kind throughout such a state as Illinois or California! By showing actual conditions in nature, by calling attention to the wrong attitude of man towards nature, and by pointing the way to good practices, as well as by stimulating thought along all lines, these institutions would be the most effective of all conservation agents.

The conservation movement was born in the minds of men who were influenced by the facts so well shown in museums. It has bloomed into a general valuation of natural resources and will bear the fruit of increased prosperity and happiness of all the people.

Dr. Walter P. Taylor, curator of mammals in the Museum of Vertebrate Zoology at the University of California, presented the following paper:

THE MUSEUM OF NATURAL HISTORY AND THE CONSERVATION OF GAME

A recent writer has well said that the problems of peace are more difficult than the problems of war. Of all the problems of peace there are few which should be of greater concern to the American people than that of the conservation of our natural resources. Unfortunately we have carried on such a campaign of progressive destruction that we have achieved the reputation of being the most wasteful people on the face of the earth.

While this policy of wastefulness has been carried forward with regard to several different resources, it is perhaps most evident when we compare the present with the former status of our native fauna. In California two species of birds and eight of mammals have already been totally extirpated, and the lives of ten more bird species and five more mammal species hang by a thread. California is not alone. The records of your own state, whichever it may be, are not much better if they are not worse.

We Americans have made mistakes. But we have a capacity for reformation, and not the least hopeful of our characteristics is a strain of idealism which insists that we must properly guard the welfare not only of the people of the present, but of the generations of the future.

Fortunately there are signs of a nation-wide awakening to the necessity of the conservation of wild life. This is shown, for example, by the statistics of increase in the number of societies for bird and game protection. Previous to 1900 there were few societies devoted primarily to this cause; now there are nearly one hundred state and ten national organizations, several of these last with large endowments, fighting the battle for preservation. And there are other similar indications of this hopeful trend of public attitude which I shall not take time to detail.

Even with this encouraging showing it must be admitted that all these protective agencies put together are not sufficient to stem altogether the tide of destruction. Now since many of the foremost specialists of America in the status, the habits, and the necessities of the members of the native fauna make up the working force in our museums of natural history, I submit that upon these persons and institutions rest peculiar obligations to contribute to the solution of the problems involved.

There are four chief lines of activity bearing on wild life protection in which the museum of natural history may legitimately engage. These are investigation of the facts, cooperation with other protective agencies, the making freely available of opinions and advice as to legislation, and education of the general public.

INVESTIGATION

Fundamental to protection of any sort is investigation. The scientific man and the scientific institution should oppose in no uncertain terms the silly sentimentalism which leads to undue restriction of the collecting of objects of natural history. The sacrifice of a comparatively small amount of life is often the condition of the preservation of an amount infinitely greater, and the sentimentalism which interposes objection to reasonable collecting of scientific specimens is the worst foe of that true sentiment upon which all conservation must be based.

The detailed examination by the Bureau of Biological Survey of the United States Department of Agriculture of the stomachs of several thousand birds has made secure and certain the protection of the uncountable millions of beneficial non-game and insectivorous birds the continent over.

In this connection permit me to recall to your minds the details of the California sea lion episode. About twenty years back the salmon fishermen prayed the state government to permit and secure the killing of a large number of sea lions which inhabited the rookeries off the Californian coast, on the grounds that the sea lions were destroying the salmon-fishing industry. The demand became more and more insistent until about the year 1900, when a legislature came into power which passed the enabling act whereby ten thousand sea lions were to be killed. In due season the slaughter commenced. It happened that about this time the late Prof. L. L. Dyche of the University of Kansas, a member of the American Association of Museums to the time of his death, spent three months on the coast, and took occasion to open the stomachs of twenty-five sea lions which had been killed for eating salmon. It had apparently not occurred to anybody previous to this time to look into the animal's stomach to see what it actually did eat. Imagine the surprise of the practical fishermen when Professor Dyche opened stomach after stomach in their presence and failed to find a trace of fish!

The haphazard method of legislating for the protection of beneficial and destruction of detrimental species will go on until circumstantial evidence, which is too often given unwarranted credence by the general public, is replaced by definite and incontrovertible statistics as to the food and habits of mammals and birds. Since the accumulation of these statistics depends to a great extent upon the gathering and study of the objects of natural history, we must insist that museums and properly qualified private individuals be unrestricted in their rights to collect.

This plea for the maintenance of the right of collecting, however, does not at all contemplate the reservation to scientific men and museums of the right to exterminate. To the mind of the writer, there may come a time when absolutely no killing of nearly extinct species for any purpose should be permitted, even in the interest of science.

COOPERATION

Cooperation with organized agencies for wild life conservation, such as private societies and state and governmental commissions, should assume a more important place in the program of work of the museum of natural history. Organizations for the protection of game the scope of whose activities are state or even nation-wide are increasing in numbers. Staff members of museums can often assist in the launching of such societies, and in the wise direction of their activities subsequent to their organization. The fund of information possessed by the museum workers should so far as possible be made freely available for their use.

A large field of activity is opened up in connection with the possibility of cooperation with state conservation commissions or state boards of fish and game commissioners. Public museums in particular have responsibility here. Special lines of investigation upon which information is desired at particular times by the commissioners should be followed up so far as may be practicable by museum investigators. This will have a tendency to put the work of state commissions on a scientific basis, and at the same time relate the work of the museum in a definite way to the needs of the community from which its support is derived.

The intimate relation naturally existing between the work of the state fish and game commission and the museum is shown by the fact that in at least one state the commission is in the process of creating a natural history museum.

LEGISLATION

Our laws concerning wild life are on the whole very good, but our enforcement of them is practically everywhere very lax. Our chief emphasis should undoubtedly be placed rather upon the enforcement of existing laws than upon the securing of new laws. After this is said, however, it must be remembered that certain laws which are not as yet on our statute books are highly desirable. Some examples from our own expérience in California may serve to show concretely the background for this statement.

The total Band-tailed Pigeon population of the Pacific Coast concentrates in California during the winter season. The birds have in the past been subjected to great slaughter in our state. In view of the fate suffered by the Passenger Pigeon, a relative of our Pacific Coast species, and of the fact that ordinarily only one young bird is raised each year by each pair of pigeons, a protective law would seem to have been justified. Yet not one iota of protection has been given to the Band-tailed Pigeon by California *to date*. In this instance the strong arm of the government recently came to the rescue, and the Federal Migratory Bird Law accorded the pigeon a five-year close season.

The sea otter which occurs off the coast of California as well as to the northward is the source of one of the finest and most expensive furs in the world. But it was not till 1913, when the species was so reduced in numbers that its preservation is problematic, that our legislature got around to putting protection on the sea otter. A law regulating traffic in sea otters should have been enacted sixty years ago.

I cite California, not because she is a special offender, but simply because I am more familiar with the details of her history. The point I make is that we do need additional wise laws, and the sovereign people of our respective communities have the right to the opinions and advice of those workers to whom they have entrusted the responsibility of scientific investigation and education.

EDUCATION

Of the various ways in which the museum may contribute to the conservation of wild life there is none which is of greater importance than education. If the people can be really interested in animate nature then they may be trusted to solve the problem of its preservation. We should strive to secure their interest in trees, birds, and mammals, and to concentrate their attention upon the desirability of saving for the future a supply of each. The best police officer in the world is an enlightened public sentiment. Through lectures, newspaper and magazine articles, books and publications suitable for public consumption, well-planned exhibits and all other available means we must get the word to the people. Most reforms become increasingly desirable as time goes on, but reforms in the administration of the native fauna must come quickly or they will avail little. Consequently our campaign of education must be as drastic and far reaching as we can make it.

WORK OF ONE MUSEUM IN CONSERVATION

The Museum of Vertebrate Zoology at the University of California is primarily a research institution, such teaching or exhibition as is provided being incidental to the prosecution of formal investigation. We might, perhaps, be justified in isolating ourselves within the four walls of our own building and in maintaining a true academic apartness from the common life-stream of our state, and, sequestered in such a manner, we might pursue successfully a certain type of high culture which would be unsullied by any suggestion of practicality. Such a course, perhaps, has much to commend it; but in a democracy like ours it hardly seems to fill the bill.

Our museum recognizes that the state of California has by implication entrusted to it certain responsibilities, one of these responsibilities being to strive, so far as may be practicable and proper, for the maintenance of the integrity of the native fauna.

Contributions to the solution of this particular problem are made along several different lines. The object in citing the details which follow is not to flaunt our own achievements, but to show how, given the conviction that a museum has a duty to help towards conservation, the details may be worked out.

Field investigations are carried forward, resulting in annual increments to our store of specimens and knowledge of habits, relative abundance, and distribution of species. This work is regarded as of fundamental importance.

Our influence, except in the rarest instances, is thrown against the introduction of foreign game or other species. It is felt that if a community cannot adequately protect its native fauna, there is small hope that it can preserve such species as might be introduced; and it is realized that the introduction of foreign species is often accompanied by unforeseen and sometimes harmful disturbances in the balance of nature.

The exigencies of the wild-life situation are taken into account in the outlining of our research program for the future. This does not mean that we do not believe in research the results of which cannot be put to immediate use. But it does mean that often when two problems of equal interest present themselves, one having a direct bearing on some problem of conservation, the other for the time being of purely theoretical significance, the more clearly useful problem is taken up.

Staff members are encouraged to promote outside conservation activities, of course within limits, and to work directly, as individuals, for particular measures. One staff-member has been given over bodily to the state, and is now serving as game expert and director of education, publicity, and research for the California Fish and Game Commission. Another member has on two separate occasions been granted temporary leave of absence to devote all his time to work for particular legislative reforms bearing on the wild life situation within the state.

The director of the museum and two members of the staff are collaborating in the authorship of a book on the game birds of California, in which will be incorporated the results of original observations and investigations as well as pertinent data from other sources, special emphasis throughout being placed on the problem of conservation. Furthermore, the director of the museum has recently completed and published a report upon the status of the Band-tailed Pigeon together with a statement of legislative necessities with regard thereto, and is at work upon several more reports on certain big game mammals found in California. One member of the staff is secretary of the California Associated Societies for the Conservation of Wild Life, chairman of a permanent committee of the Cooper Ornithological Club on game protection, and member of the committee appointed by the Secretary of Agriculture to advise with reference to the new Federal Migratory Bird Law; another is secretary of a division of the Cooper Ornithological Club; and the director is the editor of *The Condor*, the well-known ornithological magazine the influence of which is always strongly on the side of sanity in the administration of the native fauna. In these and other ways we are attempting to discharge our legitimate responsibilities in the province of conservation

DEMOCRACY, OPPORTUNITY, AND THE PROBLEMS OF PEACE

It seems clear that in a properly working democracy the museum should be intimately cognizant of the needs of the people, and should strive to meet these needs so far as may be practicable. It may fairly be said that the opportunities for public service open to our institutions are limited only by the capacity of vision of the men who compose their working force. A museum should be something more than a storehouse of dry bones or stuffed bird skins; it should be a vital force in shaping the thought of the community, a center for the inspiration of an unquenchable desire to preserve the beauties of wild nature, whether they be grand natural parks, or broad acres of forest, or living mammals and birds.

But we cannot hope to maintain any great vitality as shapers of public opinion if we lose the common touch. Although it is believed we can even along this line do better, it is quite probable that no body of scientific men is more sensitive to its responsibilities to promote the public welfare or more sympathetic with popular needs than the group of which the American Association of Museums is the organized exponent. Conklin[1] has recently protested against the tendency among scientific men to regard the teacher and interpreter of science to the plain people as having lost caste. It is believed that museum workers will give heartfelt assent to this protest.

I do not wish to be understood to be calling in question the value of pure scientific investigation, for in the long run this has proved to be unquestionably the most useful kind. But I do wish to emphasize the duty of the scientific investigator to be also an educator. Often the special investigator will be the only person competent to act as interpreter of his own work to the people. Since most of our museums of natural history are public institutions this plea should come home to us with special force.

In conclusion, permit me to state my thesis summarily as follows: Conservation of natural resources is one of the most important of the difficult problems of peace which confront our nation at the present time. The exigencies of the situation in the matter of preservation of wild life are such that every available agency should be enlisted in the campaign for sane protection. Among these agencies the museum of natural history should assume prominent place. Legitimate lines of activity for such institutions are: first, investigation of the facts, as far reaching and comprehensive as possible; second, generous cooperation with other protective agencies, public and private; third, the making freely and directly available to the people and their agents the results of investigations which must profoundly influence the course of legislation; and fourth, the education of the general public in natural history, to the end that an enlightened public sentiment be secured.

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[1] *Science*, March 5, 1915, p. 334.

In the discussion following the papers by Dr. Crook and Dr. Taylor, Prof. Junius Henderson of the University of Colorado expressed the opinion that the conservation of wild life is a matter for education rather than legislation. He thinks that the destruction is largely due to ignorance on the part of the people in general rather than to the work of market hunters and plumage hunters. There is thus a large opportunity for every natural history museum to educate the people to the importance of conserving wild life. He suggested the distribution of pamphlets on this subject, the preparation of special exhibits, and the use of labels as means of educating the public in this matter.

Mrs. D. W. de Veer of the Oakland Public Museum suggested that conservation affords a broad field for the lecturer and the educator. To enlist the sympathy of children is to mold the public opinion of the future and here the museums have a broad opportunity.

Mr. Henry L. Ward of the Milwaukee Public Museum reported that his institution has a special lecture on conservation given regularly to all school children from the fifth to the eighth grades in addition to some from private schools. The state game warden in Wisconsin has put in the field a number of wardens qualified to travel about the state and give stereopticon lectures on conservation for the purpose of creating public sentiment. Mr. Ward described his plans for a special conservation exhibit in the Milwaukee Museum.

Mr. Herbert E. Sargent of the Kent Scientific Museum at Grand Rapids described the success of a special educational campaign for the conservation of birds which he conducted in Grand Rapids in cooperation with the Audubon Society. Illustrated lectures were given at a large number of schools and the campaign culminated in a large mass meeting which greatly stimulated interest in birds and their protection.

Professor Henderson reported that the University of Colorado offers a free lecture to the people of the state on the value of birds. The museum also furnishes to the State Audubon Society lantern slides which Professor Henderson has had colored at his own expense.

Mr. Harry C. Peterson, director of the Leland Stanford Junior Museum, then presented a series of lantern slides illustrating in a most vivid and interesting way the damages suffered by the Leland Stanford Junior Museum in the earthquake of 1906. The building was largely demolished and Mr. Peterson's account of the methods used for the recovery of such material as was not broken, even to the sifting of the débris through three screens, brought to all the members a fuller realization of this great catastrophe. Palo Alto is situated only a short distance from the fault line and in consequence received about 40 per cent more vibration than most other places.

Mr. Peterson followed this demonstration with a historical account of the development of moving picture projection which was first successfully achieved on Senator Stanford's stock farm. He then discussed the application of moving pictures to the educational work of museums.

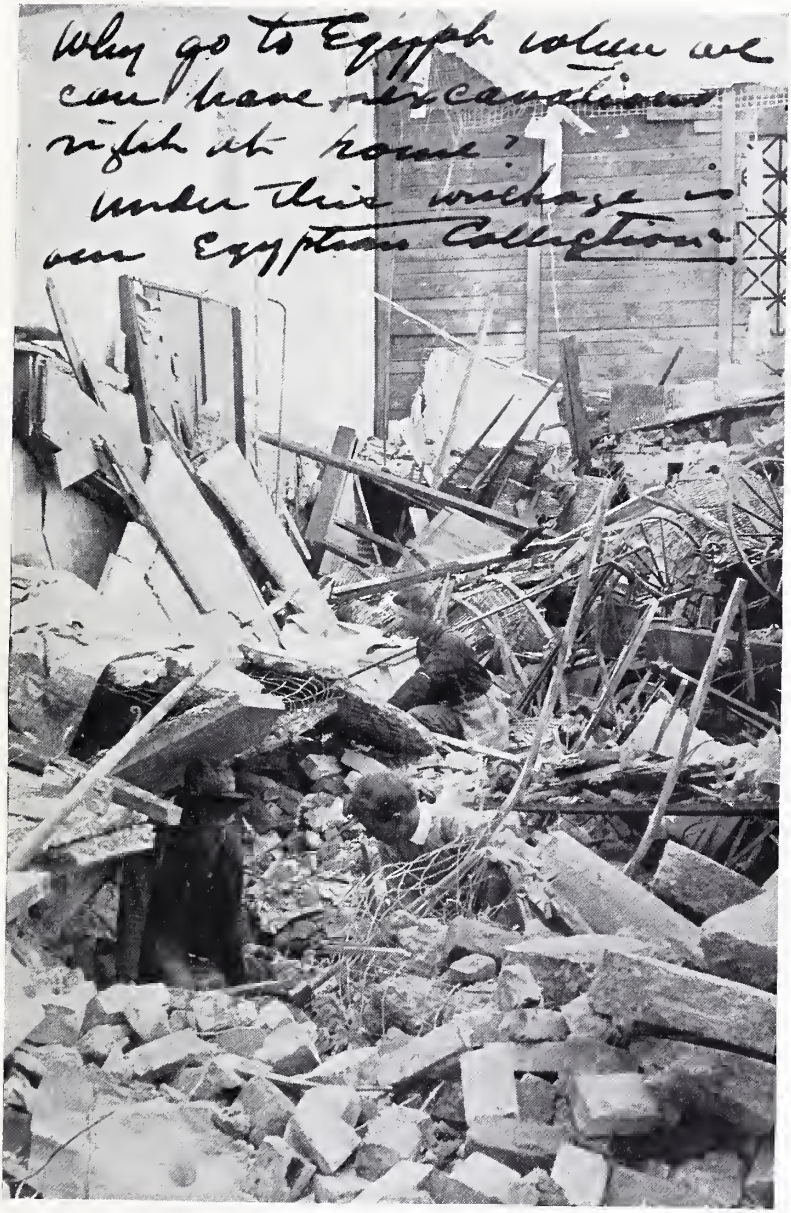
The discussion which ensued was strongly in favor of the use of moving pictures in museum educational work, in marked contrast to the rather adverse opinions expressed in the Milwaukee-Chicago meeting. A strong desire was developed for a reduction of the fire hazard in the use of moving pictures and for organized means of providing better educational films and exchanges to promote their general use. Attention was especially directed to the fact that the film companies label their pictures very inaccurately and inadequately.

Mr. Remi H. Santens, chief preparator in the taxidermic laboratory of the Carnegie Museum in Pittsburgh, then presented the following paper:

PROGRESS IN TAXIDERMY

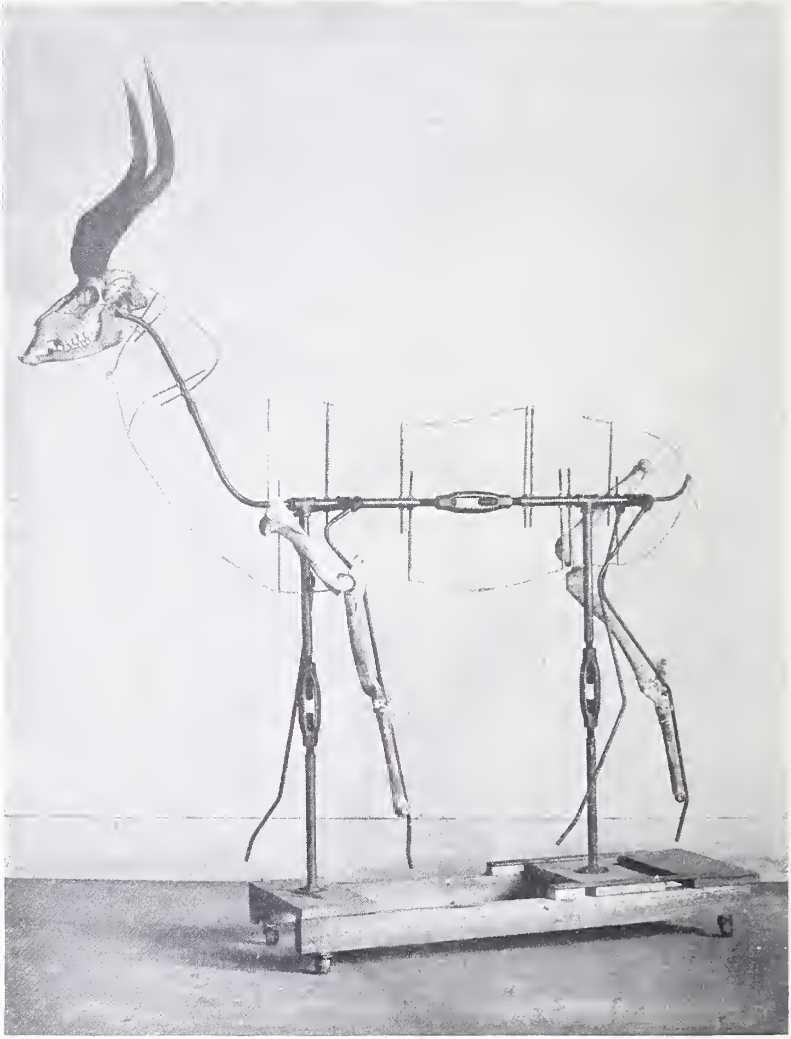
As time elapses, all branches of industry, science, and art are endeavoring to proceed toward perfection, and taxidermy, the art of preparing animals of all kinds in their exact natural form, is in the contest and is well near the front.

By looking back to the time when animals were "stuffed"—in many cases in the literal meaning and full extent of the word—and



Why go to Egypt when we
can have excavations
right at home?
Under this wreckage is
our Egyptian Collection.

VIEW IN LELAND STANFORD JUNIOR MUSEUM AFTER THE EARTHQUAKE OF 1906



ADJUSTABLE CLAY MODELING FRAME

by comparing former with present day methods, we can readily see what vast progress has been made.

An expert taxidermist of today, one advanced in his art, desires if possible to collect his own specimens, thereby gaining correct ideas of the anatomical features, securing good pictures of the correct positions, and taking measurements, casts of different parts, and examples of the surroundings—such as foliage, rocks, etc.

As a rule a taxidermist cannot collect his own animals, and in this case the modern method is to visit some zoological park where living animals of the species to be mounted can be studied.

The first step in the modern method of mounting animals is to make a miniature clay model, usually of plastilina modeling clay, using the greatest care to get all muscles, wrinkles, cords, and veins worked out, and also to get the proportionate size. In other words, a true-to-life animal in small tectonic form is modeled.

After this miniature model is completed, a life-size model is patterned from it in plastilina modeling clay. When the life-size model is completed it is cast in sections, and the plaster molds thus secured are properly inlaid with layers of different materials. When the desired thickness is attained, the cast is extracted from the mold, the result being a strong light shell. A good method of putting the sections together is by the use of light wooden blocks and small screws.

The skin is now fitted to the life-size form, using rye paste to fasten it in a dry state to its manikin.

It may be added that all the bones are saved, including the skulls (in the life-size models), as the clay is taken from them after the cast is made.

The accompanying illustration shows a special adjustable clay modeling frame designed and used in the Carnegie Museum. The following notes explain its construction:

Turn-buckles enable raising or lowering, and shortening or lengthening.

The legs are fastened to the frame with elbows and can be swung backward or forward, taking any position possible.

The body outline may be readily changed by screwing the supports.

A union in the neck enables the head to be turned.

The rear body support is attached to a sliding board on a base which works cooperatively with the turn-buckle in the body center. If a greater or smaller variation in size than the turn-buckles can give is desired, it can be attained by the use of longer or shorter nipples or sections of pipe throughout the entire frame-work.

This modeling frame can be used indefinitely for many sizes of mammals.

The Association then adjourned.

SESSION OF FRIDAY, JULY 9

Morning

The meeting was called to order by President Farrington at 10 a.m. in the California Academy of Sciences.

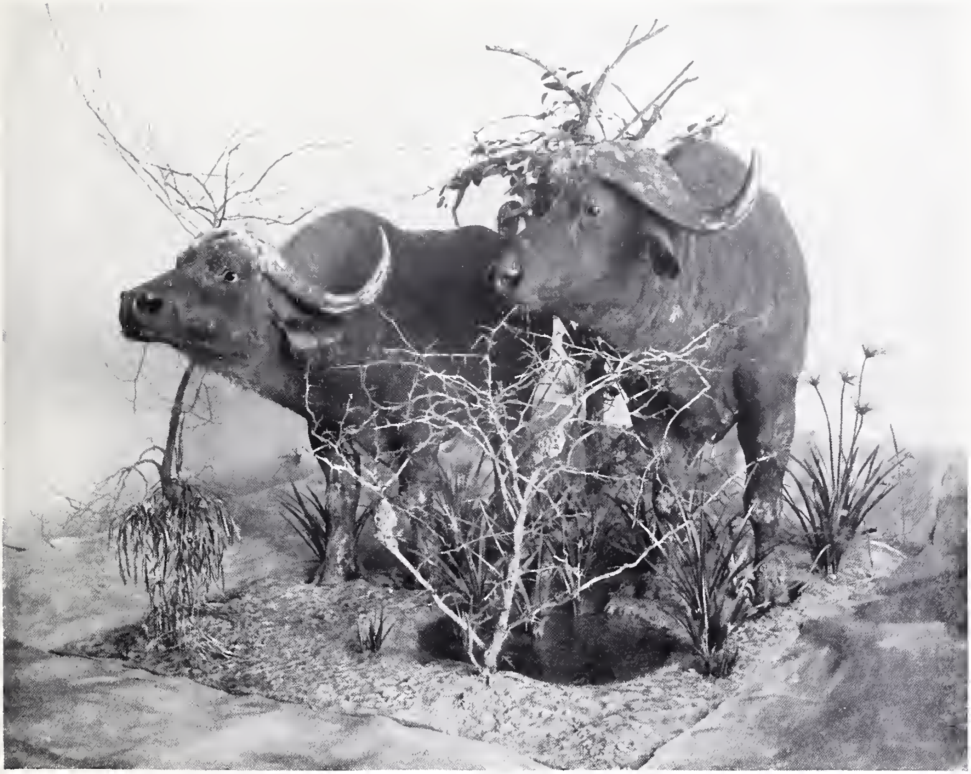
In the absence of the author, the following paper by Dr. Joseph Grinnell, director of the Museum of Vertebrate Zoology at the University of California, was read by title:

METHODS OF CARING FOR STUDY SKINS OF BIRDS

The topic I have chosen might be thought long ago exhausted˙ Examination of the eight volumes of the *Proceedings* of this Association, however, fails to disclose previous mention of many of the problems involved.

Whether or not the special interest of any museum lies in the field of ornithology, bird skins, of all natural history objects, inevitably find a place among its possessions. The relatively large number of amateurs who collect birds almost guarantees that each newly started museum shall soon receive by gift or bequest, irrespective of its own desires, collections in this field. It becomes the duty of the institution to care for this sort of material, not only because of responsibility to donors, but because, as I most earnestly believe, bird skins constitute a valuable part of every museum's equipment on account of their research and educational usefulness. Practically every museum administrator has to deal with the bird skin problem, and it deserves thoughtful consideration.

The care required in preserving a collection of bird skins and in making them available for use is really not great in amount; but it is of a particular kind. Our experience in the California Museum of Vertebrate Zoology, in gathering and housing some 35,000 bird skins within the past seven years, has brought about the revision of long-standing customs with regard to the handling of bird skins,



GROUP OF AFRICAN BUFFALOES. CHILDS FRICK COLLECTION OF EAST AFRICAN MAMMALS.
MOUNTED BY R. H. SANTENS. CARNEGIE MUSEUM, PITTSBURGH, PA.

involving points which I venture to offer herewith, trusting that some of them may prove new and subject to adoption by others having to face the problem.

There are two sources of bird skins: (1) from gift or purchase from collectors, very often amateurs, and (2) as gathered by the trained field collector under the direction, and in accordance with the determined methods, of the museum itself. Of course, practically nothing further can be done with the bird skin from the first source. It may be made over, if particularly distorted, but I consider this advisable only in extreme cases. The original 'make' of a skin, however peculiar or inconsistent with current results, gives it individuality; and the remaking of it will not only rob it of this interest but is liable to obscure or modify some real characters of the species it represents.

In accessioning such specimens it is my firm belief that the original label, and all subsequent labels that have been attached, should be retained. A label should be held sacred, never to be separated from the specimen. This tenet I should insist upon with no exception whatever; not even such as suggested by Osgood in the fourth volume of our *Proceedings*.[1] The original label, no matter how ungainly in size or form, or how inconvenient, should be preserved inseparable from the skin. Both can be kept together with maximum safety as well as either alone. If the label shows signs of disintegration it is high time to take special pains to care for the skin also, as by providing a separate small covered box or wrapper for it.

In addition to the original tags, a regular museum label will be tied to each specimen, upon which is inscribed the department number and the current name of the species represented. In the case of original tags which are falling to pieces or upon which the ink is fading, all of the data should be duplicated upon the newly added label.

A word here as to labels, even though this subject has been so exhaustively discussed by Osgood[2] and others previously. Experience has led me to prefer a label somewhat larger than that employed by the Biological Survey. Our regular label for bird and mammal skins measures 63 x 15 mm. ($2\frac{1}{2}$ x $\frac{5}{8}$ inches). The only printing upon it is the name of the institution in small type centered at the top on one side only. The string is attached through two punctures at the left of this. It seems to me that a great mistake is made by printing the bulk of the data on the labels, as is customary in many institutions. The original handwriting, and especially the signature of the field collector or museum assistant, is a guarantee of authenticity. The signature vouches for the facts upon the label. I have, too, discarded entirely the use of the rubber stamp either in the field or museum. Every item on the label is handwritten with Higgins' Eternal Ink. We have found that the most approved stamp pad ink (every sort we have tried) is affected in one way or another. For instance, in a skin which is greasy, such as that of a Night Hawk, the grease runs out on to the label, reaching it by way of the string, and partly or entirely obliterates the legend imprinted by the rubber stamp. Fading from other causes has occurred with some of our labels. Carbon writing ink is the only thing for inscriptions upon specimen labels.

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[1] Osgood, W. H., Labeling Large Collections of Mammals and Birds, *Proc. Am. Assoc. Mus.*, IV, 1910, 107.

[2] Ibid., 105–111.

As to the kind of string, we have finally come to adhere strictly to no. 8 cotton thread, "J. & P. Coats Best 6 Cord." This so far has defied the action of grease and various other deteriorating agents. We once received a collection of skins in which the labels were tied with the most approved linen cord. In course of a few years this cord has become so rotten that in many cases the labels have had to be retied—always a dangerous proceeding because of liability of mixing labels.

As regards tying the label to the bird skin, our custom is again at variance with that of most other museums. We leave the tag strung loosely, falling about one inch from the crossed legs to which it is tied, so that it dangles freely. Experience has convinced me that when labels are tied directly and firmly to the feet, with no intervening string, the specimen is more readily subject to breakage. It is often found necessary to turn the label in order to read the legend on both sides; where the label is tied firmly to the feet this is difficult or impossible without moving these appendages, and, their attachment to the skin being more or less brittle, their breakage in many cases occurs.

The distribution of the data on the label in a uniform order has seemed to us worth attention. The side of the label which bears the name of the institution should be reserved explicitly for the department number and for the name of the species. The reverse side should contain all of the field data. The order in which we now place this is as follows, occupying three or four lines, as need be: sex, original or collector's number, signature of collector; exact locality, altitude, and general locality; date; measurements; colors of soft parts. All of this data is regularly inscribed by hand on one side of the label only, as emphasized above.

Where the museum's interests lead to field work under its own direction it is, of course, not difficult to secure an ideal collection of skins. With field men employed, a uniform make of skin reaches the museum and the style and content of the field label can be dictated in advance. Always have the permanent label tied on in the field *when the bird is skinned*, this label bearing the entire field data. It seems to me the height of folly to attach a temporary number even though this corresponds to a note-book entry, leaving the full data to be inscribed at the museum or even at the end of some days or weeks collecting in the field. Serious error is thereby invited. The fully inscribed label, attached to the specimen at once, is as essential a part of the whole thing as the bill or feet and should be retained inviolate.

Assuming that the skin has arrived at the museum, whether from vagarious source or from the regularly employed field collector, the first step is, of course, to thoroughly fumigate. We use the carbon bisulphide method in the small zinc cases. This has always proved completely effective. The horror of introducing dermestes throughout our cases when distributing new accessions leads us to perform the duty of fumigation with the greatest conscientiousness. The memory of a sad experience has taught us the lesson!

It is not my purpose to describe here any particular system of cataloging. Suffice it to say that we employ the well-known card system under which there are three entries—in the accession catalog, the department catalog, and the reference catalog. The department catalog, of course, provides every specimen in an accession with its running catalog number. The reference catalog is arranged alphabetically by genera and under these by specific and subspecific names together, subspecific being treated as if specific. By a plentiful use of guide cards the catalogs can be used with ease.

As to installation, it is of the utmost importance that bird skins be not cramped for room. Deterioration is rapid where birds are piled in trays one upon another and where they are at the same time subject to frequent handling. Wear and tear of feathers then becomes great. This can be obviated by providing adequate space. Our standard unit zinc case with pulpboard-bottom trays seems to be about a duplicate of what has been adopted elsewhere of recent years. We use no cotton lining in the trays. The smooth surface of the pulpboard bottom produces least ruffling of the feathers and facilitates handling of bird skins *en masse*. Bird skins in long series may be lifted and transferred easily by the use of a thin, limber piece of cardboard which can be slid under the mass of skins with very little disturbance of their relative positions. In a surprisingly few minutes, when it becomes necessary, a whole case of birds such as warblers, numbering 2000 or more, may be moved from one set of trays to another. The only conditions under which a tray lining seems to me desirable is when greasy bird skins are to be housed; then a layer of blotting paper beneath the affected specimens is useful to prevent the oil from being absorbed by the tray bottom.

A very important item to my mind is the position in which the bird skins are laid upon each tray. The head should be directed to the left so that the label extends straight out to the right, and reads right side up. A series of skins thus lies in fore-and-aft rows in the tray. As the tray is slid in and out of the case the inevitable resulting momentum tends to slide the skins so that they press upon one another sideways. I know that custom in some other museums prescribes that the birds shall be arranged in series crossways of the trays, the heads pointing away from the case door. Where the trays are then handled by any but the most careful attendant, there is more or less excessive motion, and this is bound to produce a sliding of the birds toward the back end of the tray, the heads of one row crowding into the tails of the next, thus causing a serious disarrangement of the plumage. This is minimized by the method of arrangement we have adopted, as just indicated. Incidentally, we have printed and conspicuously displayed upon the front of several of the trays in each case: "Handle trays gently. Slide the trays slowly so as not to disarrange contents." We believe this admonition is heeded at least occasionally, often enough to make it worth while! In our own institution (and it seems to me this should be the case everywhere) our cases of study skins are available to be opened and inspected by the university student and by practically everyone else who declares special interest in inspecting their contents. It is true that we discourage casual visitors from looking at the study series, and to meet the usual needs of beginners, or such casual inquirers, we have a separate case containing a selection of study skins representing the local species. This is usually sufficient to absorb the time and interest of the non-technical visitor.

Let me take this opportunity to urge the value of collections of bird skins—to give reasons why they should be adequately and conscientiously cared for. The value of a bird skin falls under two heads; research and education, though these terms are really closely allied, and the two functions blend. First, the bird skin, together with its label, is a repository of significant facts in a great number of fields. Of these we may mention: geographic distribution, ecology, phylogeny, systematics, meaning of coloration, economic relations. New lines of inquiry are continually being brought to our attention such as may be based upon the study of bird skins. I know that external characters, such as are presented by the study skin alone, are often summarily depreciated, as merely superficial; but reflection brings out the fact of correlation of parts, and this fact must be given due weight. A single external feature may constitute an index to a train of dependent and correlated internal structures. The recognition of the one index character will often be sufficient for ecologic or systematic needs.

As regards general educational value, the bird skin, in lieu of, or as supplementing, properly mounted and displayed specimens, serves well in class instruction and for the use of the amateur student who may be independently working in the fascinating field of ornithology. The number of the latter is increasing and the value of the museum study collection open for public use is correspondingly increasing. In this connection the fact of wide-spread discouragement of private collecting should be borne in mind, no matter how much we may sincerely deplore this tendency.

The bird skin is an inevitable element in the equipment of most museums and should everywhere be accorded all needed attention to the end that it may serve fully its immediate and future usefulness.

The following paper by Mr. Herbert Clowes, landscape modeler at the Public Museum of the City of Milwaukee, was read by title:

TACKLESS LABELING FOR EXHIBITION PURPOSES

Every curator and exhibitor desires to have his descriptions as far as is possible clean-cut and readable, with the absence of any extraneous attachment calculated to distract attention from the wording, which is the main instructive objective of the label. We have heard much of labeling in the past, and it occurred to me that the following 'kink' (as I prefer to term it) may be worthy of adoption.

The idea has been to try and eliminate unsightly tacks, brads, pins, or nails, usually considered necessary for the attachment of labels, but which detract from a good appearance. Experimentation boiled itself down finally to a simple formula, and the test of results is, of course, best considered in the light of practical application extending over a number of years.

This test we have applied in various departments at the Public Museum in Milwaukee for many years past, and are satisfied with the good results obtained. The advantages of the method of attachment to be described are many, among them being cheapness, invisibility, reliability, saving of time, ease of application, adaptability to any dry surface (glass, metal, concrete, paper, wood, etc.), and the leaving of no unsightly marks when removed for rearrangement. It has also been found useful as a quick filler on mineralogical specimens (usually very awkward to number), which are then given a thin coating of shellac. The accession or other number is painted on with oil color or otherwise, or a printed number is pressed on (omitting the shellac coating in this case).

Many enquiries having been received, it was thought that other museums might be interested, so I give the formula, as follows:

FORMULA

Take one ounce by weight of good bleached *Beeswax*. (It is important that it be free from commercial adulterations such as paraffin, tallow, stearin, or other introduced oils or fats.) Melt in water bath in a clean vessel (preferably porcelain, as a teacup). When liquefied, add and stir in one good teaspoonful of Canada Balsam, or Balsam Fir (a little more for cold climates and winter, and a trifle less for summer and warmer climates). Make up fresh quantities as needed. When well mixed, pour into any suitable clean receptacle (a clean shoeblacking tin with cover is good). Set aside till cold; then cover from the dust and dirt. To use, take out a small quantity with the point of a penknife and smear it not too thickly *near* the corners of the back of the label, or make a small ball of it by rolling it between fingers and thumb—the warmth of the hand will soften it—and attach *near* the corners by pressure; arrange label and press corners with a clean rag until it thoroughly adheres. It makes a clean job and is easy to apply. Surfaces must be dry. When a good quality of wax is used, it will be found that there is no danger of stains soaking through to the face of the label, since the formula contains neither grease, oil, nor water. If the mixture is too hard for any special purpose, remelt and add a little more balsam, or if too soft add a little more wax. Most people prefer it soft as it works easier, but we find the proportions given to be just right.

To remove a label, pry it off with the point of a warmed penknife and it will come away easily. Then clean the surfaces with a small piece of flat soft wood, finishing with a clean cloth.

The following paper by Mr. Benj. Ives Gilman, Secretary of the Museum of Fine Arts in Boston, was read by title:

THE MUSEUM DOCENT

The Church here is taken for the Church as it is docent and regent; as it teaches and governs.—Century Dictionary, Art.: "Docent;" from Archbishop Laud (1573–1645).

A museum is an institution founded to keep things for show. In the English of the seventeenth century it might be said to fulfil its purpose as it is *gardant* and *monstrant;* as it preserves and exhibits.

To exhibit objects is to do the needful to make them visible. But there are two ways in which things become visible—to the bodily eye and to the spiritual sight. Gazing upon them is one thing, understanding them another. To fulfil its complete purpose as a show, a museum must do the needful in both ways. It must arrange its contents so that they can be looked at; but also help its average of visitors to know what they mean. It must at once install its contents and see to their interpretation.

Hence to express the full duty of museums it will be convenient to use three adjectives, and not two only. Reserving the word monstrant for presentation to the bodily eye, we need another for the sharpening of the spiritual sight. The business of mental preparation is called teaching, and the appropriate adjective is given in the quotation above. A museum performs its complete office as it is at once *gardant*, *monstrant*, and *docent*.

The docent office differs in museums of science and museums of art. We understand a fossil or a machine when we grasp the scientific or technical principles it is shown to illustrate; but whatever historical or professional interest a work of art may have, we do not understand it until we receive from it the impression the artist meant it should make upon beholders. Objects called works of art have meanings in the literal sense. They are one of the forms of human speech, one of the ways in which men utter their minds to one another. A fossil or a machine has meaning only figuratively. The one was not made by man at all, and the other was made, not to tell something to us but to do something for us. It is not enough therefore to understand an imaginative creation as we may understand a discovery or an invention. We must know beside what its maker intended it to tell us; and in order to grasp it as a work of art, this is all we need to understand from it. Its historical or professional significance is no part of the meaning it was made to communicate, however much—or little—either may aid toward the apprehension of that meaning. The docent duty of a museum dedicated to art is summed up in the revelation of the moods of sense and thought and feeling of which its contents are the records. In so far as it recognizes an independent teaching office, historical or professional, it treats itself, not as a museum of art, but as a museum of science or industry. With a certain danger to its usefulness, let us remember; for, in importance, a knowledge of the historical and professional principles illustrated in a masterpiece are to an acquaintance with the masterpiece itself as the crackling of thorns under a pot to the meal cooked by their burning.

The art museum as docent aims to help us read works of art as we would read books; that is, to help us divine what their authors meant to say. A sensible remark of an old-time museum official was in effect a call for the service: "The larger the number of those who can appreciate art, the broader and surer the foundations on which the future of its excellence can rest."[1] For the understanding of this office two facts are of prime importance. The docent duty of a museum of art is not in practice an accidental obligation, which it may or may not be called upon to fulfil according as its community is more or less instructed. It is a necessary obligation grounded in the nature of a museum as a permanent exhibition. Further, the docent duty of a museum of art is not of a piece with the education of the school, but radically distinguished from it by the selective nature of museum contents.

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[1] Edward Edwards: *Administrative Economy of the Fine Arts*, London, 1840, p. 98.

A museum is ultimately responsible for certain teaching because it preserves things indefinitely. Any permanent exhibition comes sooner or later to contain objects out of date, and the older it grows, the more it contains and the more out of date some of them become. The fullest understanding of these objects demands in the spectator a sympathy with the past; a sympathy in part, and always in major part, spontaneous and not to be attained by taking thought, but in part also, and often in necessary part, capable of attainment by premeditated effort, by what we call instruction. Such instruction it is the duty of a museum to assure to its visitors, whether by imparting it directly or by seeing that they can obtain it otherwise. Every museum of art, by its nature as a keeper of things for show, creates a certain educational need, and assumes a certain educational obligation auxiliary to its ultimate purpose.

Again, the education obligatory on a museum of art because of the stability of its collections differs radically from the education of the school because of their quality.

The school stands by its nature for relative excellence. School teaching is at once constrained to a secondary aim, and adapted to secondary powers. Collective instruction, or teaching imparted to a number of persons at once, cannot convey to all an equal comprehension of its theme, owing to the different teachableness of different intelligences. President Wilson, quoting a former colleague, has just reminded us that "the human mind has infinite resources for resisting the introduction of knowledge;" and within the finite resources of the teacher of a class is only the introduction of so much as may qualify his scholars generally to answer a limited set of questions. The instruction of the school tends unavoidably to aim not at education but at graduation. A man of science uses the expression, "a teacher only with no ambitions beyond enabling his classes to pass their examinations."[2] Again, the recipients of school instruction are customarily the young. It is addressed not to intelligences at the height of their powers, but to intelligences in process of development. Education, technically so-called, aims both at applying incomplete tests, and at applying them to immature minds. As well by its method as by its field, the school from primary to professional stands for relative excellence.

The museum of art stands on the contrary for absolute excellence.

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[2] Prof. E. C. Pickering in *Science*, xli, 1915, no. 1051.

It seeks to preserve only the best of the past. As docent, its duty is to aid its visitors, by the use of whatever means prove most effective, to assimilate certain of the highest achievements of minds at once mature and especially gifted. This purpose implies a docent and a disciple but neither a teacher by profession, nor class nor course nor recitation nor examination. It can be fulfilled only by a return to the natural sequence of question and answer between pupil and instructor. The order is reversed in the attempt to teach classes in courses. The education of the school consists in answering questions before they are asked. Education really efficient consists in letting answers follow questions. This is the method of all the greater teachers of mankind. The distinction lies between collective teaching, compelled to aim at examination, and individual teaching, impelled to aim at explanation. The method of examination disregards, the method of explanation observes, the mental principle according to which we see only what we are looking for. It is the question in the mind of the learner that makes what he learns part and parcel of his mental equipment. The preliminary act, that of the delivery of the message, may be compared to the sowing of seed, in itself a barren deed. Education proper does not begin until the seed germinates in the arrest of some pupil's attention. The question follows, not as in the school, from the teacher, but from the pupil; and the answer to the question, not as in the school, given by the pupil, but contributed by the teacher, is the fostering care under which the seed once germinated may bring forth, some thirty, some sixty, some an hundred fold. The use of this natural method hampers the school in discharging its obligation to graduate; but forwards the museum in discharging its obligation to educate. The highest achievements of men at once mature and especially gifted are what the museum has to impart; and the watchword of its docent task must be: "He that hath ears to hear let him hear." Uttered on behalf of beauty, this summons has the same universal range it had when first spoken. The museum offers itself as docent not to a privileged few, but to every one according to his points of contact with the treasures it displays; and such points of contact, of one or another kind in infinite variety exist in every one. Amiel has said: "The supreme finesse in teaching consists in knowing how to suggest; and for this the teacher must divine what it is that interests."[3] The museum cannot teach under all conditions, but alone when one or another interest is awake in one or another visitor. In the nurture of these individual interests lies its office as docent.

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[3] *Journal Intime*, i, 203.

The inappropriateness of school methods—the professional instruction of a class in a course by recitations and examinations—to this office manifests itself in four ways. First, in the dulling of the sense of perfection in the docent representatives of the museum. The hard intellectual labor of applying halfway standards to undeveloped minds inures the spirit to imperfection; and whoever the disciples and however taught, the docent function cannot to good advantage be performed as an exclusive office. The education given by a museum of art should always be the partial occupation of persons engaged also in productive labor in competition with equals. Even the whole body of those whose daily duty it is to keep and augment and study its collections may not suffice for the work. The appeal of every object of art is to the spiritual kin of the artist, and he may often lack blood relatives on the staff. Is any outsider available to whom the work speaks in a mother tongue, and who can to practical effect speak of it to others, the museum must seek him also as its representative. Only thus can the sense of perfection, which is the condition of the understanding of a work of art, spread from its teachers to their hearers.

Second, the use of school methods by a museum misdirects its docent work. School methods are adjusted to the needs of youth; works of art are not. They were not made by children, nor, unless by exception, for children; and no aid can enable children to comprehend them fully. Carlyle's description of a boy's awakening to the beauty of nature applies still more pointedly to the beauty of art. It was "still a Hebrew speech for me; nevertheless I was looking at the fair illuminated Letters and had an eye for their gilding."[4] The museum that treats its docent office as a duty chiefly owed to youth stints the children of a larger growth who could best profit by its instruction. Dr. Goode writes of museums in general: "I should not organize the museum primarily for the use of the people in their larval or schoolgoing stage of existence. . . . Schooldays last, at the most, only from five to fifteen years, and they end with the majority of mankind before their minds have reached the stage of growth most favorable for the reception and assimilation of the best and most useful thought."[5] School classes marshalled through museum halls may afford gratifying statistics, but the invisible census of educational result would make the judicious grieve. The practice in museums of art has the same foundation and the same limitations as the attempt to make monuments of literature into subjects of school instruction. Jules Lemaitre has written: "The soul of a little child well-endowed is nearer Homer than the soul of this or that bourgeois or this or that mediocre academician." The remark accuses modern life, both the business and the scholastic life, of destroying the freshness of feeling and naïvété of apprehension which inspired the Iliad and the Odyssey. Freshness and naïvété are indeed conditions necessary for any understanding of a work of art; but they are not conditions sufficient for its assimilation. The soul of an artist can be evoked from his work only by his spiritual peers. Dante addressing Virgil says:[6] "Thy noble words honor both thyself and those who hearken to them." But school boys since have seldom hearkened. Many, like Byron, lose even the capacity to hearken.[7]

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[4] *Sartor Resartus.*

Then, farewell, Horace; whom I hated so,
Not for thy faults but mine; it is a curse
To understand, not feel, thy lyric flow,
To comprehend, but never love, thy verse.

An Indian saying compares the artist to the moon which can draw the sea but makes no appreciable difference in the level of a well; and, it may be added, can move neither if frozen. The dulling of the sense of perfection which handicaps the teacher by profession needs no proof more irrefragable than is given by school editions of many literary classics. To attempt to put within adolescent grasp masterpieces embodying the utmost reaches of thought and refinements of expression, the fruit of the richest experience, is treachery to art in the museum as in the class in literature. The practical necessity of expurgation in both cases should be warning enough of the unwisdom of the enterprise. To the adolescent the sex-impulse is but just beginning the long course of its irradiation through the whole of life which fills the consciousness of the adult with ineffable echoes "from Heaven across the World to Hell"—as Goethe describes the action of Faust.[8] To place before a boy or girl a work of art containing, as most do, ingredients from this all-compelling and all-comprehending fact, is to invite its misunderstanding. Whether the process may not morally weaken also is often an open question. There is solid psychological ground for the objection, intemperately voiced from time to time by a few fanatics, to indiscriminate museum visits by school classes. The peril should not be blinked by museum authorities, but should suggest the inquiry whether the whole "educational racket"—as the profane might term the attempt to turn school children into habitués of museums—does not rest upon an assumption due simply to mental inertia—the assumption, namely, that whatever the adult can assimilate to his profit, can and should be presented and expounded to the young.

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[5] G. Brown Goode: "The museum of the Future." Annual Report Smithsonian Institution, 1897, part ii, p. 249.

[6] *Inferno*, ii, 113/4.

[7] *Childe Harold*, Canto iv.

Third, the use by a museum of school methods devitalizes its docent work. The purpose of the docent is to lead his disciples on to enjoyment. A work of art is the embodiment of a creative joy, or as a work of art it is worthless; and to get it enjoyed as it was made to be enjoyed is the be-all and the end-all of museum instruction proper. The purpose of the teacher is to impart knowledge; a divergent aim, and under school conditions in a measure incompatible. The "Cicerone" of the Swiss critic Burckhardt in its original form was the written discourse of a docent-at-large in Italy. The docent purpose is exactly expressed in the sub-title of the volume—"Eine Einleitung zum Genuss der Kunstwerke Italiens": "a leading-on to (or introduction to) the enjoyment of Italian art." But in posthumous editions the accumulated erudition of many editors, succeeding the free play of a sensitive mind, obscures to the reader the happy temper in which it first was written. The scholastic atmosphere is in three ways hostile to the mood of joy. The contagion from the instructor is more or less in default. To guide learners along well-trodden paths of truth is far from the thrilling pleasure that Bacon, after Lucretius, found in standing on its vantage ground. Again, the scholastic atmosphere is an atmosphere of more or less compulsion, and again, of more or less self-consciousness. Collective instruction presupposes uniform exercises, none exactly responding to the needs of any pupil; and the shadow of the pedagogic disapproval chills the spirit turned inward upon the thought of its own relation to a standard.

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[8] *Conversations with Eckermann.*

Unless a museum is to fail essentially in its teaching office, its instruction must be accomplished in holiday mood, without drudgery for the docent, and without tasks or tests for the disciple.

Finally, the use of school methods in a museum fosters a misconstruction of its docent obligation. Since schools are founded to impart systematic knowledge or practical skill, the museum may easily be thought bound as docent to teach the history, principles, and practice of the arts it represents, or even to exert a commanding influence on their current development. Yet both ideas are misconceptions, the first excusable, the last egregious. As a permanent public exhibition a museum is bound to see that its community has access to means of understanding its exhibits. But the teaching of the various disciplines they illustrate, theoretical and practical, is a wholly different business, without basis either in *gardant* or *monstrant* functions. The mistake of confusing it with them is excusable because the obligation to see that works of art are publicly understood has awaited the creation of institutions to preserve them for public benefit. Before museums existed the artistic public, the spectator, the other half of the incomplete being we call an artist, had no official representative. Instruction in art meant only the inculcation of art history and theory and the training of embryo painters and sculptors. The fine art of beholding grew wild. Today museums are founded everywhere in this country in younger communities with only the scantiest opportunities for the upbuilding of permanent collections of fine art. So placed a museum becomes less an exhibition than a center for artistic interests of all kinds; and its docent office presents itself as the duty of theoretical and technical instruction. Nevertheless, the condition is ephemeral, the sign of an undeveloped machinery of civilization. It joins functions alien in method and scope, and in a measure antagonistic. The museum as docent teaches objects; it instructs toward its exhibits. As the purveyor of general knowledge about art, it teaches subjects; it instructs from its exhibits. Again, a museum official's duties cover many fields beside the history and theory of art; and the history and theory of art cover many fields beyond the collections in his care. A further radical difference separates an exhibition from a school of practice. The one belongs to the contemplative life; the other to the active life. The museum is the home, not of the artist—the creator—but of the critic—the spectator. The museum is catholic in spirit; the technical school separatist. The judgments of artists, one upon another, are, as

Stendhal suggested, so many "certificates of resemblance."[9] Technical instruction tends to make the museum one-sided; the museum to make technical instruction superficial. These are the conclusions of experience. Of the combination of other functions with that of the museum, Mr. Hedley writes: "Museum evolution tends toward specialization; the narrower its limits, the higher the grade an institution generally reaches."[10] Of museum buildings Dr. Pazaurek writes: "It is a question seriously to be discussed whether in planning art buildings *de novo* the union of school and museum, by some thought absolutely essential, is really to be recommended. Experience seems often to teach otherwise, for where they have been under one roof either one or other has suffered. . . . Either the museum has flourished and the school vegetated in secret, or—under another management—the school has taken a great start while the museum has sunk to the level of a neglected school-collection. When this subject is considered dispassionately and thoroughly, these twins that only too easily grow together will in many cases be separated betimes, and two entirely distinct buildings erected.[11] From this counsel, as from the principles involved, the inference is that while freely offering its aid to schools, both theoretical and technical, the museum will best perform its essential duty under separate management.

The other misconception of the docent office of museums—that which assigns them the high duty of presiding over the artistic production of their time and place—rests upon a beclouded notion of how the artist works. He sees through other eyes only to use his own to better advantage thereafter. Only in the measure in which he can take up into himself what others have wrought will his own work bear comparison with theirs. To guide him after preparatory years would be a fatal impertinence in any institution. These are commonplaces of the psychology of fancy, illustrated in the past at every alternation of artistic decadence and rebirth. Lowell writes of "the fact, patent in the history of all the fine arts, that every attempt at reproducing bygone excellence by external imitation of it, or even by applying the rules which analytic criticism has formulated from the study of it, has resulted in producing the artificial and not the artistic."[12] The return of the artist to nature means a transition from the contemplation of that which has pleased others to the discovery of that which pleases himself, and out of this immediate joy every viable product of fancy springs. Museum officials as arbiters of what he should paint or carve would be even more hopelessly out of place than students of literature as arbiters of what he should write. Museums have no mission to make the fame of artists. They are founded to secure it when made by the interested public.

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[9] *Histoire de la peinture en Italie*, ii (Index).

[10] Charles Hedley: *Museum Administration in the United States*, Miscellaneous Series, viii, 1913, Australian Museum, Sydney, p. 30.

[11] G. A. Pazaurek: "Museumsbauten," *Wiener Bauindustrie Zeitung*, Jahrgang 20, no. 40, 1903.

The docent office of the museum, conditioned by these results, thus outlines itself. Mindful of its purpose to aid toward the spiritual assimilation of some of the highest things, it should aim not at attainment, but at progress, not at graduation but at education. It should be carried on, not as the sole office of a few persons, but as the duty on occasion of many chosen representatives. It should address itself chiefly to minds already mature and only under restrictions to children. It should be undertaken in the spirit of free intercourse, not in that of compulsion, in the spirit of play and not of work, seeking to offer not what the docent wants to teach but what the spectator wants to know. It should not ally itself with technical instruction, and above all should renounce the ambition to control the productive artist whether through patronage or criticism.

What then shall the museum as docent say? Of what subject matter shall its speech consist? Let us take as a guide the words in which a living poet leads on his readers to the enjoyment of a poem by a foregoer. Having the work of art itself before us we can follow his method as we could not were we to quote the exposition of a picture or a statue.

The introductory chapter of M. Auguste Dorchain's volume "*L'Art des Vers*,"[13] instead of beginning at once the technical study of versification to which the book is to be devoted, essays by an example to quicken the reader's sense of the nobility and power of poetry. Before seeking to impart a knowledge of the art, the author seeks to awaken a love of it.

> Compose yourself a moment. Close your ears to the noises which rise from the street; forget some of your petty cares; let subside within your soul like dregs everything which since you woke has cumbered, defiled, or at least dissipated

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[12] J. R. Lowell: *Literary Essays:* Swinburne's Tragedies.

[13] Paris, 1905.

your mind—the reading of a useless newspaper or empty book, trifling talk, an idle call. Then go to your bookcase; take from its shelf the *Orientales* of Victor Hugo; open it at the thirty-seventh number; and, deliberately articulating each syllable, observing each period and comma as you would the rests and glides of a musical notation, read this poem in two strophes:[14]

EXTASE

J'étais seul près des flots, par une nuit d'étoiles
Pas un nuage aux cieux, sur les mers pas de voiles.
Mes yeux plongaient plus loin que le monde réel.
Et les bois, et les monts, et toute la nature,
Semblaient interroger dans un confus murmure
    Les flots des mers, les feux du ciel.

Et les étoiles d'or, légions infinies,
À voix haute, à voix basse, avec mille harmonies,
Disaient, en inclinant leur couronnes de feu;
Et les flots bleus, que rien ne gouverne ni n'arrête,
Disaient, en recourbant l'écume de leur crête:
    —C'est le Seigneur, le Seigneur Dieu!

M. Dorchain then examines each line:

J'étais seul près des flots, par une nuit d'étoiles

In this first line, which could not be imagined more perfectly simple, the whole scene is already evoked and established; the man, the place and the hour. And this line, delayed in the middle by a considerable pause, and indefinitely prolonged as by an organ point, thanks to the final word *étoiles,* is all-sufficient in itself to balance any developments with which it might please the poet to follow it. Suppose a moment that he had begun the poem thus:

Près des flots j'étais seul, sous un ciel étoilé

This would have the same sense, yet there would be left nothing, absolutely nothing, of what could be called poetry. *Flots* and *étoiles* are the two essential words of the poem, those whose apposition and opposition are to form its whole architecture. The word *flots* falls on the hemistich (halfway point) only in the line of the master, and the comma which follows separates the two elements, sea and sky. In the supposed verse, in the second half, the words are hard in sound, and hammered out uniformly in each of their syllables *sous-un-ciel-é-toi-lé*. In Victor Hugo's line, in the second half, thanks to the *e* mute of *une*, and to the fascinating alliteration formed by the two successive *ns*—*une nuit*—the voice glides on easily, to rest and dilate upon the second syllable of *étoiles*, and to die away finally in prolonging the mute syllable which ends the word and the line.

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[14] The poem may be verbally rendered as follows:

I was alone by the waves on a starry night
Not a cloud in the skies, not a sail on the seas.
My eyes saw beyond the real world.
And the woods, and the mountains, and all nature
Seemed to question, in a confused murmur,
    The waves of the seas, the stars of the sky.

And the golden stars, infinite legions,
With voices loud and low, in a thousand harmonies,
Answered, bending their crowns of fire;
And the blue waves, that nothing governs nor stays,
Answered, curving the foam of their crests:
    It is the Lord, the Lord God!

J'étais seul près des flots, par une nuit d'étoiles.

Only compare them!

Going on to the second line: will the poet try to define, by a detail, by something noticed and depicted, the picture formed by the first line? Another would not have failed to do it. But Victor Hugo does just the contrary; he does not add but cancels suggestions already given.

Pas un nuage aux cieux, sur les mers pas de voiles.

For he wants to bring us as quickly as possible from the concrete to the abstract, from external to internal things, in order finally to lead us from internal to supernal things. And remark in passing the elegance of this second line, parallel to the first through its central comma, and by the correspondence of the objects described but parallel by inversion, as one may say, because here the sky is in the first hemistich and the sea in the second: a parallelism of two scales, one ascending played by the left hand, one descending, played by the right.

Mes yeux plongaient plus loin que le monde réel.

—the real world being already reduced to its simplest expression by the preceding line. What is the essential word here? It is *plus loin*; and you see that the poet has placed it at the point in the line which is necessarily the most accented—the hemistich.

And now the poet is about to invoke all the voices that he hears with the spirit, just because he has passed beyond the world of sense. But he is already quarter way in his poem; how can he voice them all without destroying its just proportions?

Et les bois, et les monts, et toute la nature

This conjunction *et*, repeated three times proves to suffice by the indefiniteness it adds to the enumeration; twice in the first half of the line for the particular voices, once in the second for the entire chorus. I seem to see the leader of an orchestra, calling, by a sign toward the left, upon the strings; by a sign toward the right, upon the brasses; and then with both arms extended in a broader gesture unchaining all the instruments of the orchestra.

Unchaining them? Rather summoning them, not in all their strength but in all their gentleness, and mute. For these are voices that sing in silence, and as it were, add to the majesty of silence.

Et les bois, et les monts, et toute la nature
Semblaient interroger, dans un confus murmure

And here instinctively the poet has used words in which three successive syllables are formed with the letter *u*: that one which it is impossible to sing loud on a high pitch, that one which cannot be pronounced otherwise than with compressed lips, and by hardly uttering a sound.

Semblaient interroger dans un confus murmure
Les flots des mers, les feux du ciel

Try a moment to lengthen this line out to the measure of the others; by saying, for example:

Les flots profonds des mers, les feux legers du ciel

Marvelous! It seems as if in adding these epithets, instead of lengthening it, we had shortened it. It is longer in the matter of time, and smaller for the imagination, for thought; for with these parasitic words it no longer awakens any idea of grandeur. As it was, on the contrary, reduced to the four parallel substantives which are the framework of the strophe, see how it girds up the strophe by tying the last line to the first, and how it concludes it by concentrating it.

But we are already half way through the poem; and the theme of it has only been set forth. The poet has only six more lines with which to bring it to its conclusion, when one would think it would take several more strophes. Not at all. Six lines will answer. See, the poet has not let drop the initial movement. He has indeed put a period at the end of the first strophe, but here he is starting off again with the conjunction *et*, thereby linking the second strophe to the first, and even beyond the terminal point of the latter, rejoining the line in which already it is found three times:

Et les bois, et les monts, et toute la nature

The two strophes are no longer two, but a single musical phrase, destined to broaden and grow in sonority and majesty up to the end.

Et les étoiles d'or, légions infinies.
À voix haute, à voix basse, avec mille harmonies

This second line, by a proceeding natural to poetry, passes from one sense to another; the visual impression has become an auditory one. The waves and the stars must respond to the woods and the mountains that have questioned them, and they need a voice. The stars shine more or less brightly according to their distance and size, and they form the groups we call constellations. Well, the more or less intense scintillation of the stars becomes voices more or less sonorous, and the thousand figures of the constellations become a thousand harmonies, perceptible no longer to the eyes but to the ears:

Et les étoiles d'or, légions infinies,
À voix haute, à voix basse, avec mille harmonies
Disaient, en inclinant leur couronnes de feu

What do they say? Will their answer fill the remaining lines? No, that would leave out the answer of the waves, and rupture the whole equilibrium of the poem. By a boldness unexampled in poetry, and perhaps in language, by an inspiration truly sublime, the poet arrests his phrase then and there, leaves it hanging as it were in the void, and descending from the sky to the sea, seeks in turn the response of the waves, to combine it with that of the stars in a stupendous unison, by means of the repeated word *Disaient*; and to swing them together, like the mingled smoke of two censors, toward Him, whose name by a last artifice he delays to utter until the final line, in order that it may be the last word of this last strophe, as He is in the poet's eyes, the last word of creation and humanity.

Et les flots bleus, que rien ne gouverne ni n'arrête
Disaient, en recourbant l'écume de leur crête
C'est le Seigneur, le Seigneur Dieu!

The three similes with which this exposition is adorned are the involuntary contribution of a poet, not the deliberate choice of an expositor. M. Dorchain gives more than an exposition, but like a good docent, also leaves other patent details to be discovered by his disciple. The poem describes a question and its answer, the question wholly contained within the first strophe, the second strophe wholly devoted to the answer. There is a fifth conjunction *et* which binds the answer of the waves to the answer of the stars, as that which precedes binds both to the question of the woods and mountains. The phrase "confused murmur" seems to lay bare the genesis of the poem in sounds of the wind through trees and over heights that fell on the poet's ear like the voice of the land in a question. In the strophe devoted to the answer, the epithets chosen for the stars and waves are not indifferent adjectives but those which display them in their proper and contrasted colors, gold and blue. As stars but twinkle, while waves crumble, so the poet fancies the one but bending while the others curve downward as if prostrating themselves. The two actions, contained and abandoned, correspond to the heavenly peace and the earthly turbulence of which sky and sea are accepted representatives. The reason for dignity on the one hand and humility on the other is suggested in describing the stars as crowned heads moving in order, and the waves as unruly subjects, whose anarchic fury is emphasized by the position of the word *rien* at the hemistich of the line. The little poem is a consummate gem, and turn it as we may, new facets dazzle us with their precision and brilliancy.

A first doubt that rises to the mind in considering this exposition lays an axe at the root of the whole theory of the docent office. Is it not to destroy the power of a work of art to make it the subject of open conference? To point out sources of joy acts admittedly to dry them up. The mental law by which pleasure vanishes under reflective analysis has been a tale retold in all ages—in antiquity by the story of Cupid and Psyche, in the middle ages by stories like that of Lohengrin and Elsa. It would appear then a folly to attempt by any verbal comment on a work of art to lead another on to joy in it.

Schiller's lines

> Mit dem Guertel, mit dem Schleier
> Reisst der schoene Wahn entzwei![15]

are then a parable; and the nearest to a work of art is he who apprehends it from afar. Without question the mood in which a disciple is left by any exposition differs materially from the mood which the artist has sought to convey by it. No exposition is more than a skeleton of complete assimilation; and none, moreover, of through traffic with the artist's mind, but a traffic by change is trains with all its possibilities of error. Yet every pertinent exposition contains elements of real assimilation; nuclei of understanding which when we turn to the work again and forget them may lead toward it. The wind of doctrine, while it dampens the fire kindled by the artist, fans sparks therein from which, when it dies away the whole may again spring into flame. The full truth seems to be that although analysis temporarily deadens appreciation, it tends to drop out of mind, while the understanding which it both quickens and adulterates tends to remain. Within closely guarded limits, only to be observed by a spirit of instinctive reverence, it would appear then that the docent office has a real, if modest, right to exist.

M. Dorchain's exposition is a guide to the docent as well by what it omits as by what it includes. It gives nothing of Victor Hugo's personal history, of his time, or of the special circumstances under which the poem was written. These all belong to the real world; the poem to one "that never was on sea or land." M. Dorchain might have begun thus: "It is a noteworthy fact that the eminence of Victor Hugo (1802–1885) as a lyric poet was undisputed from the beginning, while his novels and plays were each the object of a violent polemic. His first wide reputation was gained by the publication in 1829 of the volume entitled *Les Orientales*—in effect a plea for the independence of Greece—from which the poem about to be examined is taken. With regard to the scene there portrayed, it is related of the poet, etc., etc., etc.," all of which items serve only to domesticate us before the looking-glass through which the poem aims to translate us. An English workman, a passionate admirer of Tennyson, urged to ask an introduction to the poet, exclaimed, pointing upward: "You can't reach Tennyson! He lives there!" Longfellow once aptly compared a poet in his life and in his works with a lighthouse by day and by night. We do not spend time over the lighthouse buildings if our aim is to pick up its beam.

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[15] "Das Lied von der Glocke." ("With the girdle, with the veil, the fair illusion falls in twain.")

M. Dorchain, again, does not give us generalizations about the poem as a whole, but observations upon its details. The one method comports with an ignorance of the work of art discussed which at once implies and engenders indifference to it; the other demands an acquaintance with it which at once presupposes and communicates enjoyment of it. M. Emile Faguet writes of literary criticism: "General ideas and philosophical considerations lead one around but not into great writers. They can throw a little indirect light on great works, but they chiefly divert and distract from them. *A propos of* a great writer is not *of* him; but rather a respectable excuse for saying nothing *of* him. Criticism by generalities is rather a means of shirking the task than of undertaking it; and rather a means also of setting one's self forth than of interpreting the writer that one is supposed to have read and to want to have others read."[16] In the field of the objective arts, the histories are a mine of illustrations. Two identical and empty generalizations are the sole words (in translation) of one work of established authority upon two radically unlike masterpieces of sculpture—the famous equestrian statues of Gattamelata and Colleoni. One is "full of energetic character and bold life;" the other is "characteristic to excess but full of life and power." Not to have been struck by their difference is not to have penetrated either. Nor does the phrase "absolute relaxation of sleep" applied in the same volume to Michel Angelo's figure of "Night" penetrate the meaning of an attitude in which one hand has already slipped from beneath the forehead and the elbow is in the act of gliding down the thigh. The figure has been compared to the restless "Ariadne" of the Vatican, and is even more unrelaxed. Plainly, in this standard book, the broad stroke was used because either congenital incapacity or limitations of a mistaken task hindered the use of the fine. Generalities may be good servants in the docent office but they are bad masters.

M. Dorchain's example again teaches that the docent must very rarely praise directly. To affirm that something is beautiful is to announce that the speaker takes pleasure in its contemplation. The docent either cannot or can point out sources of that pleasure. If he cannot, the announcement will not tend to awaken it, but rather will emphasize its lack in the disciple, either pique him, and dispose him away from enjoyment or invite him to sham thereafter a pleasure which he does not feel. If the docent can indicate its origin, this is his business, and the preliminary statement of his own good fortune is for the most part a gratuitous futility. To awaken a sense of beauty it is essential to proceed by setting causes in action, not by commanding their effect. If the docent's enthusiasm is real—and if not he is no docent—it will pierce through the soberest language he may choose. The familiar history of art already quoted again offers examples of what to avoid. The following forty-six words constitute one-quarter of the whole number devoted in this volume (in translation) to the Sistine Madonna: "wonderful form—glorious raiment—heavenly apparition—lovely angel-faces—majesty of his eyes—saintly Pope—lovely demeanor—graceful head—revelation of power and glory—enchanting angel-boys—last touch of beauty to this magnificent work—deepest thought—profoundest insight—completest loveliness—the apex of all religious art." In all M. Dorchain's exposition on the contrary there are but four phrases which can be called open praise. He speaks once of the "fascinating" alliteration in *une nuit*; again of the "elegance" of the second line; again of the whole poem as "destined to grow in sonority and majesty up to the end;" and finally of the suspension produced by the repetition of the word *disaient* as an inspiration "truly sublime." All else in the long analysis is a plain description of the make of the two stanzas, yet conceived with an admiration so ardent that its contagion is irresistible.

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[16] In *Les Annales*, no. 1591, December 21, 1914.

The docent must be even more circumspect in the use of dispraise either direct or indirect; and M. Dorchain is again an example to follow. He tells us neither that the poem is (or is not) of Victor Hugo's best, nor (unless by a single playful hint) that Victor Hugo is the greatest of French lyrists. Such statements are rife in all descriptive books on art, full of references to its blossoming and decadence. Yet they convey barren statistical information, empty of all illuminating force. They put before the mind a simple quantitative picture made up of heights and depths. The sole pointer they offer a disciple may be thus expressed: "A given amount of attention will be best repaid by this work or this artist." To which three rejoinders are in place: first—Such is your opinion, but who will guarantee its justice? Yesterday proclaimed Murillo the greatest Spanish painter; today proclaims Velasquez. Second, admitting the infallibility of the claim you represent, what are the merits that make up this matchless sum? Double stars do not constitute a guide book. The feast of which we also wish to partake, you point us to, but do not set before us. It has been acutely remarked that critics sometimes "use works of art only as a stimulus to their memories of related objects." Their minds are so full of relations that they are incapable of apprehending the things between which the relations subsist. Third, supposing your opinion infallible, and the feast partaken, are there no other viands of the spirit spread on other tables? Toward these your words of indirect dispraise do not invite us; they rather disillusion us about them. When you call one stage of art still imperfect, or another past its prime, we are vexed with the question—"What more?"— when you call another the highest, with the equally disappointing query—"Is this all?" M. Dorchain permits himself two comparative judgments, neither referring to other poetry generally, but to specific lines of his own composition. In the transposed first line and the lengthened sixth line he gives us the materials for a judgment, and asks us to render it for ourselves. This method escapes all three of the faults of the customary statistical procedure. It does not claim infallibility; it minutely describes the particular merits it claims; and the lines dispraised are not the work of another poet, but inventions for the occasion as *corpora vilia* of comparison.

Another pitfall of artistic exposition is wholly avoided by M. Dorchain. The docent must not fancy it any duty of his to teach the laws of beauty. In so doing he would commit a psychological solecism of the first order. A disciple may easily think that if he only knew the general principles according to which certain things give pleasure he would be armed to perceive their beauty; and a docent may be inclined to ask of what else can a course of preparation for the enjoyment of a work of art consist than a discourse upon the laws of beauty as exemplified therein. Yet nothing could be more useless and in fact prejudicial to the docent aim. It is useless because there is no causal connection whatever between abstractions and the phenomena they collate. To inculcate a mental law does nothing to bring about its fulfilment. What fulfils it is the presence in the mind of the causes whose effect the law formulates. Does it help us see jokes to learn that the phenomenon of the ludicrous is due to a datum unexpected under a certain interpretation of circumstances which prove to have another interpretation in which the datum becomes expected? Yet this is the content of theories of the Comic. In the instance of beautiful things, it is the apprehension of those aspects of them that give pleasure which furnishes the *why* of the beauty of the work to us. The generalization itself according to which they do so has no such power, and our ignorance of it will be no handicap to our enjoyment. A knowledge of it, on the contrary, will be such a handicap. It calls the mind away from the concrete object, the bearer of the artist's thought, to a region of abstract and colorless idea in which he has had no part, and in which if we wish to follow him we will take no part. In M. Dorchain's exposition, as was to be expected, the enunciation of laws of beauty is conspicuous by its absence.

The chief positive factor in effective exposition is the labor of directing the disciple's attention upon vital elements in a work of art, of ensuring that it is really perceived in detail, and taken in in its entirety. Equally important in a negative way, and in practice naturally mingled with it, is the labor of clearing away difficulties of comprehension.

Victor Hugo's lines are so plain that M. Dorchain has almost no difficulties to elucidate. Without him we might possibly have mistaken or ignored the reference to brighter and fainter stars in the "*à voix haute, à voix basse,*" but all else is clear and we are left to ourselves to understand it. In most other poems there would be far more to explain, and in many there would be insoluble enigmas. It is hardly too much to say that the first contact of any one with any museum object—any picture, any statue, any fragment of architecture, any product of minor art—has its share of the disagreeable state of mind we call bewilderment. To be bewildered over a thing is to make unsuccessful attempts to understand it, and here as everywhere ill-success is not a pleasure but a pain, lighter or severer as the case may be. Bewilderment continued becomes more and more a load on the spirits. Failure to understand one feature after another in the work we are inspecting first produces boredom and then exasperation with it—both of them moods which are to the creative joy of the artist as oil is to water. It is the business of the docent to prevent this untoward outcome at all hazards; but as evil is always best overcome with good, the negative effort will not be a labor by itself, but a by-product of the labor of stating the right interpretations at once and before they can be missed by the disciple. The main task of the docent is therefore an interpretation which shall at the same time be an explanation.

His general method will consist, as M. Dorchain's does, in going over the work of art in detail and in review, and making sure that it is thoroughly apprehended as the artist would have it, both by eye and mind. This ideal is rarely even approached. Why are not Michel Angelo's expressions of the fop in his statue of Adonis and the sot in his statue of Bacchus matters of common remark? Because students of him do not look at his works. The docent is one to whom "the visible world exists," as it did to Théophile Gautier; and who seeks to make it exist to others. By a convenient distinction the purpose of an artist may be divided into a sensuous and an imaginative intention. He may mainly, or wholly, aim to give the beholder certain sensations in a certain arrangement, to which may be added almost invariably the emotional mood which these sensations awaken. Or he may mainly, though never wholly, care to impart the inferences which are naturally drawn from the forms and colors which make up his work as an object of sense. The first alternative is that of direct, or free beauty, of which the cardinal exemplar is music; the second, indirect or representative beauty, of which the cardinal exemplar is literature. The direct element is essential also to belles lettres, especially to poetry, as the preamble to M. Dorchain's exposition indicates. In the objective arts—alone represented in a museum—the elements of sense and imagination are more nearly equalized, one or the other predominating as the artist's temper dictates. Whistler's "Nocturnes" and "Arrangements" illustrate in painting the gravitation toward musical structure which Walter Pater finds in all the fine arts. Interpretation by a docent will therefore not aim exclusively, or even in many cases mainly, at making plain to a disciple the so-called "story" of the picture or the statue. But he will include both elements if he take care to see that every vital line and surface and shadow and tint is at least perceived by the disciple; and shall be understood as well, if he divine an intention in the artist going beyond the sense impression to its imaginative fruit. He must say not only "the shadows gather here" or "every tone in the picture is reddened" but "an endless plain stretches beyond, with occasional glimpses of the sea;" or "the saint is Catherine and the wheel a symbol of her martyrdom." By this guidance the burden of bewilderment will be lifted, and the work of art seen with that degree of minuteness, breadth and deliberation through which alone it can yield its impression, and which, nevertheless, is habitually denied it even by those who aspire to speak and write. Thus only are works of art both recommended and taught. The disciple grows into the other half of the incomplete being we call an artist; and by his beholding gives the work a new lease of life in another spirit.

The experience of docent work in a museum suggests two practical rules. The essential office of the docent is to get the object thoroughly perceived by the disciple. Hence, draw attention *to* the object first; talk *about* it afterwards, and only if occasion offers. In the words of François Coppée:[17] "Voir d'abord; ensuite, savoir." Again, the admiration of the docent is like the latent fire of a match, imprisoned in his head, and not effective without an interlocutor as igniting surface, and even an auditor beside as tinder. When these are seen to in advance, there will nearly always be an extended blaze. Hence, let the docent of a group provide himself at the start with a questioner (to be kept within bounds) and a hearer.

The official recognition by museums of the duty of oral instruction upon their contents dates from very recent years. The initiative was taken by a museum of art.[18] Twenty years ago in Boston the interpretation of museum exhibits by museum officers was under discussion at the Museum of Fine Arts. Expert guidance in the galleries had already been privately advocated, and in the following year, 1896, the Trustees consented that volunteer representatives of the Twentieth Century Club of that city should meet visitors in the galleries of casts to give information about the sculptures shown. The experiment was carried on for three months under the supervision of an officer of the Museum, who reported to the Trustees recommending that if continued the service be made official. For ten years this was impossible. The studies and plans for the new building of the Museum fully absorbed the energies of the administration. In June, 1906, the Museum Bulletin at last announced the project, and applied the forgotten English adjective "docent" to the future duty. Meanwhile a similar effort had been undertaken by volunteers at the Louvre in Paris. In remarking upon it in December, 1901, the Chronique des Arts suggested that officers of the museum should conduct the instruction. "Thus the public would learn to see better, and to comprehend better, from those to whom long familiarity and laborious achievement have given the privilege of becoming the intimate friends of our masterpieces." Two years later, in September, 1903, the Mannheim Conference of Museum Officials received a number of reports upon like volunteer movements in German museums. Finally, in April, 1907, gallery instruction was made an official function at the Boston Museum. The Bulletin of that date announced that an assistant in the administration had been appointed, under the title of "docent," to the additional duty of giving visitors in the galleries information about the exhibits. Similar appointments with the name of "museum instructor" followed within a year or two at two museums in New York, one a museum of science—the American Museum of Natural History—the other a museum of art—the Metropolitan. The opportunity of service was welcomed by other museums throughout the country, and the new word "docent" has since become widely accepted among us in the new sense of an official commentator on things shown. From the beginning this term has signified not an official post but an official duty; not a functionary but a function. All of the officers of the Boston Museum, most of their assistants, and many friends have taken part in the service in the eight years since it was begun. In 1910 the plan was taken up in England, and there have since been several appointments under the name "museum demonstrator" in museums in London.

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[17] *Souvenirs d'un Parisien.*

[18] *Museumskunde*, vol. iii, 1907, p. 186.

In American museums of art, gallery instruction is one factor in a widespread recent movement for their utilization for educational purposes. Luther is credited with comparing public opinion to a drunken peasant on horseback. Righted on one side it falls toward the other. The rude comparison has an aptness illustrated once more in the history of museum economy. Museums of fine art began by subordinating their rôle of showing to their rôle of keeping. This was the magazine era of museums, when they were built and arranged with chief reference to the preservation of their contents. These were the days of closely restricted access, of crowded rooms and walls, of great cases with multifarious contents, both arranged in each other's way, of light openings insufficient and dazzling. In large measure awakened since to the absurdity of this shortsightedness, museums have inclined toward the other possibility of error: that of subordinating their rôle of showing to their rôle of teaching. To the magazine era has succeeded—notably in this country—a school era, when museums of art are managed with conspicuous reference, if not chief reference, to instruction by means of their contents. This is the day of the employment of public collections as apparatus in school and college courses, of omnipresent and obtrusive labels, of the obstruction of galleries by copyists and by classes under preceptors, of lecture rooms and class rooms, and of detailed programmes for their use timed to the educational year. The museum of fine art is greeted, in words likewise applicable and likewise inappropriate to the church, as "the crown of our educational system." An end will come in time to this opposite and equally absurd shortsightedness. The primary aim of exhibitions of art is to bring it about that certain artistic intentions shall be apprehended by the spectator of the objects fashioned to embody them. The conservation of the objects and the instruction of the spectator are subsidiary to this purpose; their simple display to him in part accomplishes it. A museum preserves its contents *in order that* they may be taken in by eye and mind; and instructs upon them *in order that* when shown to the eye they may be grasped by the mind. Should it install its contents even to their hurt and without commentary, it would still in a measure attain its purpose; while if it kept them never so safely and interpreted them never so wisely without ever letting them be seen, it would wholly fail in its aim. The museum gardant and the museum docent are means; the museum monstrant an end.

The beginnings of a natural treatment of public exhibitions of fine art may be descried in the subordination by museums of the aims of safe and compact stowage and of didactic effectivenes to the aim of display. When they install fewer objects at once, in more congenial surroundings, with a greater regard for the limitations of the human sight and muscles; when they subordinate labels and other machinery of teaching and recognize that their proper educational office is instruction toward and not from exhibits, and the paramount interests in their keeping those of the adult public, the three functions, gardant, monstrant and docent, will at length take on their definitive status.

The following paper by Prof. Homer R. Dill, director of the museum exhibit of vertebrates at the University of Iowa, was read by title:

A NEW LABEL DEVICE

The objects of this device are, first, to hold labels so that they may be plainly seen and read; second, to prevent them from curling; and, third, to protect them from dust and dirt.

Figure 1 is a perspective view of the device in position to receive the back plate (*D*), a label (*C*), and a protective covering of celluloid (*B*). Figure 2 is a transverse section with a label in operative position.

In both figures (*A*) represents the frame of the holder supported by the foot (*F*), these two parts preferably being made from one piece of metal. The metal plate (*D*) is held in place by the turned edge indicated in the upper frame member and by the catch (*E*). When a label is to be placed in the holder the plate (*D*) is removed. A piece of celluloid or other transparent material the size of the plate is then placed in the frame. The label is put in place and the plate (*D*) inserted, all being held in position by the catch (*E*) and by the turned edge. To remove the label press down the catch (*E*).

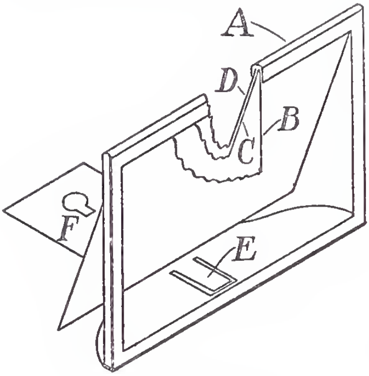

Fig. 1

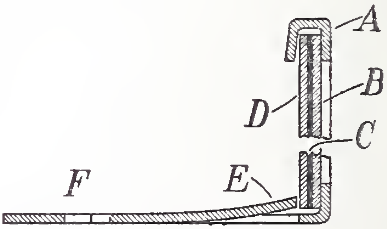

Fig. 2

The holder is useful for supporting labels on glass or metal shelves and may be secured to the edge of wooden shelves by means of the metal foot afforded by the lower frame member of the holder, in which there is a slot to receive the head of a nail or screw driven into the lower surface of the shelf.

The following resolution, offered by Mr. Newton H. Carpenter, was then unanimously adopted:

> WHEREAS, The scarcity of trained men and women as employees in museum work has long been realized by the American Association of Museums, and

> Whereas, The members of the Association learn with great satisfaction of the establishment in the State University of Iowa of a course for the training of such employees; therefore be it
>
> *Resolved*, That the American Association of Museums, in annual meeting assembled, commends this work, and recommends it to its members for their encouragement, cooperation, and patronage.

On motion of Mr. Carpenter, the Association voted to provide on the program of the next meeting for a discussion on "How Museums Can Increase Their Usefulness to the Public."

Mr. Edward L. Burchard suggested that at the Washington meeting special sessions be set apart for technical papers. This suggestion was adopted by the Association.

On behalf of the committee on legislation, Professor Henderson requested the cooperation of the members of the Association in bringing to the attention of the committee matters needing legislative action.

The Secretary expressed his appreciation of the interest shown by the members in planning for the Washington meeting and invited their further cooperation in providing the best program possible.

The following resolution offered by Miss Margaret T. Jackson was then unanimously adopted:

> Whereas, The scarcity of trained and competent men and women as employees in museum work has long been realized by the American Association of Museums, and
>
> Whereas, The members of the Association learn with great satisfaction of the course which is offered in Wellesley College for the training of such employees, therefore be it
>
> *Resolved*, That the American Association of Museums, in annual meeting assembled, commends this work and recommends it to its members for their encouragement, cooperation, and patronage.

On motion of Miss Margaret T. Jackson, the Association voted that all matters coming before the legislative committee be reported to the Council with recommendation, and that such action be taken by the Council on these recommendations as it may deem wise.

Professor Henderson offered the suggestion that special committees be appointed by the President to assist the Secretary in preparing the program for the various sessions of the next meeting.

The following resolutions offered by Mr. Henry R. Howland were unanimously adopted:

> *Resolved*, That the hearty thanks of the American Association of Museums be tendered to the trustees and officers of the Colorado Museum of Natural History in Denver; the Deseret Museum in Salt Lake City; the California Academy of Sciences, the Museum of Anthropology, the Golden Gate Park Memorial Museum in San Francisco; the Oakland Public Museum, the Museums of Vertebrate Zoology, Paleontology, and Anthropology of the University of California in Berkeley; and the Leland Stanford Junior Museum in Palo Alto for entertainment and courtesies extended to the Association on the occasion of its San Francisco meeting; and especially to Mr. J. D. Figgins, Dr. J. E. Talmage, Dr. Barton W. Evermann, Dr. Roy E. Dickerson, Mr. E. W. Gifford, Prof. George Barron, Mrs. D. W. deVeer, Dr. Joseph Grinnell, Prof. T. T. Waterman, and Mr. Harry C. Peterson for the cordial welcome and thoughtful arrangements which have made this meeting so enjoyable; also to President Joseph Smith and the Church of Latter Day Saints in Salt Lake City for welcome and entertainment; to the San Francisco Park Commissioners for their hospitality; to the San Francisco Institute of Art for the use of its lecture room; to Mr. Frank C. Havens for extending to the Association the courtesies of the Piedmont Art Gallery, and to Mr. Richard L. Partington, curator of the Gallery for courtesies extended; to Mr. C. L. Greene and ex-Mayor Frank K. Mott for the pleasant welcome extended to the Association at Oakland and to the City Council of Oakland for its entertainment; to President J. C. Branner for the welcome extended on behalf of the Leland Stanford Junior University; to the Palo Alto Chamber of Commerce for its entertainment; and to Mrs. A. B. Spreckels for the yachting trip and reception tendered to the Association.

Before closing the convention President Farrington expressed the appreciation of the Association for the hospitality and entertainment extended by the western members and the hope that a large delegation from the Pacific Coast would attend the Washington meeting in 1916.

There being no further business to come before the convention the Association adjourned, sine die.

Following the formal adjournment of the convention, the members were taken on a launch trip about San Francisco Bay as guests of Mrs. A. B. Spreckels. In the evening Mrs. Spreckels tendered to the Association a reception at which opportunity was given to view her private art collection. This most enjoyable entertainment brought to a close the San Francisco meeting.

APPENDIX

CONSTITUTION OF THE AMERICAN ASSOCIATION OF MUSEUMS

ARTICLE I

NAME

The name of this Association shall be "The American Association of Museums."

ARTICLE II

OBJECT

The object of this Association shall be to promote the welfare of Museums, to increase and diffuse knowledge of all matters relating to them, and to encourage helpful relations among Museums and those interested in them.

ARTICLE III

MEMBERSHIP

All Museums officially represented at the first meeting of this Association, held at the American Museum of Natural History in New York, on May 15, 1906; all persons taking part in the organization of this Association, or who on the above date, or prior thereto, have by letter signified their wish to become members of the Association, shall become Charter Members on payment before the next annual meeting of the Association of the fees hereinafter provided for.

The Members of the Association shall be Active, Associate, Sustaining and Honorary.

Persons actively engaged in the work of Museums may become Active Members on the payment of three dollars per annum, and may become Active Members for Life upon payment of thirty dollars at any one time.

Persons contributing one dollar per annum may become Associate Members.

Each Museum paying not less than ten dollars a year shall be a Sustaining Member of the Association, and through its chief executive officer or a properly accredited representative, shall be entitled to cast a vote on all matters coming before the Association.

Persons distinguished for eminent services, either to the cause of Museums or to this Association, may become Honorary Members. The number of Honorary Members shall be limited to fifteen. When ten Honorary Members have been elected then thereafter not more than two such members may be elected annually.

Active and Sustaining Members only shall have a right to vote, and Active Members only may hold office.

Any Museum or person proposed in writing for Active, Associate, or Sustaining Membership by a Member of the Association, and approved by the Council, upon the payment of the proper fee shall become a Member of the Association.

Any person contributing five hundred dollars or more at any one time shall become a Patron of the Association.

ARTICLE IV

OFFICERS

The officers of the Association shall be a President, a Vice-President, a Secretary, and a Treasurer, and six other persons designated as Councillors, and these ten shall be members of the Council. The President shall serve for two years, and during the two succeeding years shall be ineligible for re-election to the presidency but shall be an ex-officio member of the Council. Two Councillors chosen by the Association shall retire annually, and for one year shall be ineligible for re-election to the same office. An Assistant Secretary may also be elected.

ARTICLE V

COUNCIL

The general control of the affairs of the Association, except as otherwise herein provided, shall be vested in the Council.

ARTICLE VI

ELECTION OF OFFICERS

Officers shall be elected by ballot at the annual meeting.

The Council shall have power to fill any vacancies which may occur in its membership between annual meetings.

ARTICLE VII

MEETINGS

A general meeting shall be held in each calendar year. Special meetings may be appointed by the Association or called by the Council. The time and place of the annual meeting shall be determined by the Association. In order to diffuse a knowledge of Museums and their work, the Association shall meet in a different city or town each succeeding year, unless otherwise determined by the Association.

At the annual meeting papers may be read, matters relating to Museums discussed, and any business relating to the affairs of the Association shall be transacted.

Special meetings may be called by the Council in emergencies, and only matters stated in the call shall be considered at such special meetings.

ARTICLE VIII

PUBLICATIONS

The publications of the Association shall be distributed free to all Sustaining and Active Members who have paid their dues for the year of issue. Associate Members may obtain the Proceedings in paper covers at one dollar, or in cloth binding at one dollar and twenty-five cents.

ARTICLE IX

AMENDMENTS

This Constitution may be amended by a two-thirds vote of the members present and voting at any meeting, provided that every proposed amendment shall be first considered by the Council and be reported by the Council with or without recommendation.

REPORT OF THE TREASURER OF THE AMERICAN ASSOCIATION OF MUSEUMS, PRESENTED AT THE ANNUAL MEETING

SAN FRANCISCO, JULY 6–9, 1915

Balance on hand, May 15, 1914	$607.92

Receipts

4 Active memberships for year ending May 15, 1913	12.00
10 Active memberships for year ending May 15, 1914	30.00
194 Active memberships for year ending May 15, 1915	582.00
3 Active memberships for year ending May 15, 1916	9.00
1 Active life membership	30.00
2 Sustaining memberships for year ending May 15, 1914	20.00
49 Sustaining memberships for year ending May 15, 1915	505.00
1 Sustaining membership for year ending May 15, 1916	10.00
1 Associate membership for year ending May 15, 1914	1.00
13 Associate memberships for year ending May 15, 1915	13.00
Sale of publications, reprints, etc	140.67
Total receipts	$1960.59

Expenditures

1914				
June	1	L. L. Weeks, Assistant Secretary (salary, May)	$30.00	
June	1	L. L. Weeks, Assistant Secretary (expenses Milwaukee-Chicago meeting)	113.59	
June	1	P. M. Rea, Secretary (expenses Milwaukee-Chicago meeting)	126.24	
June	1	P. M. Rea, Secretary (petty cash)	20.00	
June	1	A. L. Cross (photograph)	1.00	
June	10	Neil Satterlee (reporting proceedings)	72.40	
June	24	Philadelphia Post Office (postage stamps)	10.00	
June	25	Husting & Nowack (printing)	16.00	
July	8	Philadelphia Museums (envelopes and printing)	1.50	
July	8	L. L. Weeks, Assistant Secretary (salary, June)	30.00	
July	24	Daggett Printing Co. (stationery and printing)	15.75	
July	30	L. L. Weeks, Assistant Secretary (salary, July)	30.00	
		Carried forward	$466.48	$1960.59

	Brought forward		$466.48	$1960.59
Sept. 3	L. L. Weeks, Assistant Secretary (salary, Aug.)		30.00	
Sept.29	P. M. Rea, Secretary,			
	Advance for petty cash	$20.00		
	Postage on *Proceedings*	20.00		
			40.00	
Sept.29	L. L. Weeks, Assistant Secretary (salary, Sept.)		30.00	
Oct. 14	P. M. Rea, Secretary (additional postage and freight on *Proceedings*		27.02	
Oct. 28	L. L. Weeks, Assistant Secretary (salary, Oct.)		30.00	
Nov. 6	Williams & Wilkins Co. (1000 copies *Proceedings* and reprints)		513.87	
Nov.17	P. M. Rea (petty cash)		20.00	
Dec. 3	L. L. Weeks, Assistant Secretary (salary, Nov.)		30.00	
1915				
Jan. 5	L. L. Weeks, Assistant Secretary (salary, Dec.)		30.00	
Feb. 1	Daggett Printing Company (No. 10 envelopes)		3.30	
Feb. 1	L. L. Weeks, Assistant Secretary (salary, Jan.)		30.00	
Mar. 3	L. L. Weeks, Assistant Secretary (salary, Feb.)		30.00	
Apr. 12	L. L. Weeks, Assistant Secretary (salary, March)		30.00	
Apr. 19	Meyer Frank (printing)		15.35	
May 3	L. L. Weeks, Assistant Secretary (salary, April)		30.00	
May 15	A. A. Clinger (services for Treasurer)		50.00	
	Total Expenditures			1406.02
	Balance on hand, May 15, 1915			$554.57

W. P. WILSON,
Treasurer.

Examined and found correct:
N. H. CARPENTER,
H. L. WARD,
R. E. DICKERSON,
Auditing Committee.

MEMBERS OF THE AMERICAN ASSOCIATION OF MUSEUMS[1]

PATRONS

Huntington, Archer M., 15 West 81st Street, New York City.

SUSTAINING MEMBERS

Academy of Natural Sciences of Philadelphia, Philadelphia, Pa.
American Geographic Society, New York City.
*American Museum of Natural History, New York City.
American Museum of Safety, New York City.
American Numismatic Society, New York City.
Arnold Arboretum, Boston, Mass.
*Art Association of Indianapolis (John Herron Art Institute), Indianapolis, Ind.
*The Art Institute of Chicago, Chicago, Ill.
Battle Creek Public School Museum, Battle Creek, Mich.
Bernice P. Bishop Museum Trustees, Box 466, Honolulu, T. H.
Boston Society of Natural History, Boston, Mass.
*Brooklyn Institute Museum, Eastern Parkway, Brooklyn, N. Y.
Buffalo Historical Society, Buffalo, N. Y.
Buffalo Society of Natural Sciences, Buffalo, N. Y.
California Academy of Sciences, San Francisco, Cal.
*Carnegie Museum, Department of the Carnegie Institute, Pittsburgh, Pa.
*The Charleston Museum, Charleston, S. C.
*The Chicago Academy of Sciences, Lincoln Park, Chicago, Ill.
Cincinnati Museum Association, Cincinnati, Ohio.
Cleveland Museum of Art, Cleveland, Ohio.
Colorado Museum of Natural History, Denver, Col.
*The Corcoran Gallery of Art, Washington, D. C.
Davenport Academy of Sciences, Davenport, Iowa.
Department of Archæology, Phillips Academy, Andover, Mass.
*Deseret Museum, Salt Lake City, Utah.
The Essex Institute, Salem, Mass.
*The Fairbanks Museum of Natural Science, St. Johnsbury, Vt.
*Field Museum of Natural History, Chicago, Ill.
Geological Survey of Canada, Ottawa, Ontario, Canada.
Germanic Museum, Harvard University, Cambridge, Mass.
Hispanic Society of America, New York City.
Illinois State Museum, Springfield, Ill.
Joseph Moore Museum, Earlham College, Earlham, Ind.
Mattatuck Historical Society, Waterbury, Conn.
*Metropolitan Museum of Art, New York City.
Michigan Historical Commission, Lansing, Mich.
Minneapolis Institute of Arts, Minneapolis, Minn.
*Museum of Fine Arts, Boston, Mass.

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[1] The asterisk (*) denotes a Charter Member.

Museum of the Grand Lodge of F. and A. M. of Pennsylvania, Masonic Temple, Philadelphia, Pa.
*New York Botanical Garden, Bronx Park, New York City.
*New York State Museum, Albany, N. Y.
Newark Museum Association, Newark, N. J.
Northwestern University, Museum of the College of Liberal Arts, Evanston, Ill.
Peabody Museum, Salem, Mass.
*Pennsylvania Museum and School of Industrial Art, Memorial Hall, Fairmount Park, Philadelphia, Pa.
Pennsylvania State Museum, Harrisburg, Pa.
The Philadelphia Museums, 34th St., below Spruce, Philadelphia, Pa.
Provincial Museum, Department of Agriculture, Regina, Saskatchewan, Canada.
*Public Museum of the City of Milwaukee, Milwaukee, Wis.
Springfield Art Museum, Springfield, Mass.
*University Museum, Department of Archæology, University of Pennsylvania, Philadelphia, Pa.
Wadsworth Athenæum, Hartford, Conn.
*Washington State Art Association, Seattle, Wash.
Worcester Art Museum, Worcester, Mass.

LIFE MEMBERS

Clowes, Herbert, Landscape Modeler, Public Museum of the City of Milwaukee, Milwaukee, Wisconsin.
Crook, A. R., Curator, Illinois State Museum of Natural History, Springfield, Illinois.
Graves, F. P., Graves Private Museum, Doe Run, Mo.
Harris, Norman W., Field Museum of Natural History, Chicago, Ill.
*Henshaw, Samuel, Director, Museum of Comparative Zoology, Harvard University, Cambridge, Mass.
*Holland, W. J., Director, Department of the Museum, Carnegie Institute, Pittsburgh, Pa.
Parrish, Samuel L., Southampton Art Museum, Southampton, Long Island, N. Y.
*Talmage, James E., Director, Deseret Museum, Salt Lake City, Utah.
Thayer, John E., Director, Thayer Museum, Lancaster, Mass.

ACTIVE MEMBERS

*Adams, Charles C., Forest Zoologist, New York State College of Forestry, Syracuse, N. Y.
Adickes, Thomas W., Assistant Curator, North Carolina State Museum, Raleigh, North Carolina.
Aitkin, Helen J., Assistant Curator, Division of Conchology, Central Museum, Brooklyn Institute of Arts and Sciences, Brooklyn, N. Y.
*Akeley, C. E., Taxidermist, Studio at American Museum of Natural History, New York City.
Albrecht, Clarence J., Director of Vertebrate Exhibits, State Museum, University of Washington, Seattle, Wash.

Allen, Eleanor C., Artist, Public Museum of the City of Milwaukee, Milwaukee, Wis.

*Allen, J. A., Curator of Mammalogy and Ornithology, American Museum of Natural History, New York City.

Alliott, Hector, Curator, The Southwest Museum, Los Angeles, Cal.

Altmann, William, Assistant Curator, Golden Gate Park Memorial Museum, San Francisco, Cal.

*Ami, Henry M., Strathcona Park, Ottawa, Ontario, Canada.

Ashley, William Bevier, Demarest, N. J.

Atkinson, D. A., Custodian of Reptiles, Carnegie Museum, Pittsburgh, Pa.

Austin, Thomas L., Curator, Erie Public Museum, Erie, Pa.

Bailey, Alfred, Student in Taxidermy, State University of Iowa, Iowa City, Iowa.

Bailey, B. H., Curator, Coe College Museum, Cedar Rapids, Iowa.

*Baker, Frank C., Zoological Investigator, New York State College of Forestry, Syracuse, N. Y.

*Barber, Edwin AtLee, Director of Museum, Pennsylvania Museum and School of Industrial Art, Philadelphia, Pa.

*Barbour, Erwin Hinckley, Curator, State Museum, Lincoln, Neb.

Barbour, Thomas, Associate Curator of Reptiles, Museum of Comparative Zoology, Cambridge, Mass.

Barrett, S. A., Curator of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.

Barron, George H., Curator, Golden Gate Park Memorial Museum, San Francisco, Cal.

Bassler, R. S., Curator of Paleontology, United States National Museum, Washington, D. C.

*Beatty, John W., Director, Department of Fine Arts, Carnegie Institute, Pittsburgh, Pa.

*Bennett, Bessie, Curator of Decorative Arts and Assistant to the Director, The Art Institute of Chicago, Chicago, Ill.

*Berg, George L., Director, Washington State Art Association, Seattle, Wash.

Bergeron, Mrs. Eva Rowley, Artist and Photographer, The Chicago Academy of Sciences, Chicago, Ill.

Berwick, William, Restorer of Documents, Library of Congress, Washington, D. C.

Bethel, Ellsworth, President, Colorado Academy of Sciences, Denver, Col.

Block, Maurice, Assistant, Art Institute of Chicago, Chicago, Ill.

Boyle, C. W., Curator, Isaac Delgado Museum of Art, New Orleans, La.

Brah, Bernard H., Assistant, Department of Anthropology, Public Museum of the City of Milwaukee, Milwaukee, Wis.

*Brigham, William T., Director, Bernice P. Bishop Museum, Honolulu, T. H.

Brimley, Herbert H., Curator, North Carolina State Museum, Raleigh, N. C.

Brinckley, William J., Assistant, Departments of Geology and Vertebrate Zoology, Public Museum of the City of Milwaukee, Milwaukee, Wis.

*Britton, N. L., Director-in-chief, New York Botanical Garden, Bronx Park, New York City.

Brock, Clarence L., Director, Houston Museum and Scientific Society, Houston, Texas.

Brockett, Paul, Assistant Librarian, Smithsonian Institution, Washington, D. C.

Brooks, Neil C., Curator, Museum of European Culture, University of Illinois, Urbana, Ill.

Brown, C. Emerson, Curator of Vertebrates, Peabody Museum, Salem, Mass.

Brown, Charles E., Chief, State Historical Museum of Wisconsin, Madison, Wisconsin.

Brown, Stewardson, Curator of Herbarium, Academy of Natural Sciences, Philadelphia, Pa.

*Bryan, William Alanson, Professor of Zoology, College of Hawaii, Box 38, Honolulu, T. H.

Bryant, William L., Custodian of Museum, Buffalo Society of Natural Sciences, Buffalo, N. Y.

*Bumpus, Hermon C., President, Tufts College, Tufts College, Mass.

*Burchard, Edward L., Secretary, Civics Extension Committee, Chicago, Ill.

Burroughs, Clyde H., Secretary and Assistant Director, Detroit Museum of Art, Detroit, Mich.

Carpenter, Newton H., Secretary, The Art Institute of Chicago, Chicago, Ill.

Carrington, FitzRoy, Curator of Prints, Museum of Fine Arts, Boston, Mass.

Chapman, Frank M., Curator of Ornithology, American Museum of Natural History, New York City.

Clark, Lotta A., 175 Dartmouth St., Boston, Mass.

Clarke, John M., Director, New York State Museum, Albany, N. Y.

Cooper-Prichard, A. H., 350 Madison Ave., New York City.

Cowan, Robert E., Historian, 867 Treat Ave., San Francisco, Cal.

Crocker, Anna B., Curator, Portland Art Association, Portland, Ore.

Cummings, Byron, Director of the Museum, University of Arizona, Tucson, Ariz.

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[1] Died Nov. 15, 1915.

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Emerson, B. K., In charge of Geology (*active*).
ANDOVER:
Phillips Academy, Department of Archeology (*sustaining*):
Moorehead, Warren K., Curator (*active*).

BOSTON:
- Arnold Arboretum (*sustaining*).
- Boston Society of Natural History (*sustaining*):
  - Cushman, Joseph A., Assistant Curator (*active*).
  - Jackson, Robert T., Assistant Curator, In charge of Paleontological Collections (*active*).
  - Johnson, Charles W., Curator (*active*).
- Children's Museum of Boston (*non-member*):
  - Griffin, Delia Isabel, Director (*active*).
- Museum of Fine Arts (*sustaining*):
  - Carrington, FitzRoy, Curator of Prints (*active*).
  - Elliott, Huger, Supervisor of Educational Work (*active*).
  - Fairbanks, Arthur, Director (*active*).
  - Flint, Sarah G., Assistant in charge of Textiles (*active*).
  - Gilman, Benj. Ives, Secretary (*active*).
  - Paull, Florence V., Assistant in charge of Western Art (*active*).
- Unattached:
  - Clark, Lotta A. (*active*).
  - Slocum, Anna D. (*active*).
  - Slocum, Laura (*associate*).

CAMBRIDGE:
- Harvard University, Botanical Museum (*non-member*):
  - Goodale, George Lincoln, Honorary Curator (*active*).
- Harvard University, Fogg Art Museum (*non-member*):
  - Forbes, Edward W., Director (*active*).
  - Wood, Alice M., Assistant in charge of Photographs (*active*).
- Harvard University, Germanic Museum (*sustaining*).
- Harvard University, Museum of Comparative Zoology (*non-member*):
  - Barbour, Thomas, Associate Curator of Reptiles and Amphibians (*active*).
  - Henshaw, Samuel, Director (*life*).
  - Raymond, Percy E. (*active*).
- Harvard University, Peabody Museum (*non-member*):
  - Peabody, Charles, Curator of European Archeology (*active*).
  - Willoughby, Charles C., Director (*active*).
- Harvard University, University Museum (*non-member*):
  - Sayles, Robert W., Curator, Geological Department (*active*).

LANCASTER:
- Thayer Museum (*non-member*):
  - Thayer, John E., Director (*life*).

SALEM:
- The Essex Institute (*sustaining*):
  - Dow, George Francis, Secretary and Curator (*active*).
- Peabody Museum (*sustaining*):
  - Brown, C. Emerson, Curator of Vertebrates (*active*).
  - Jenkins, L. W., Assistant Director (*active*).
  - Morse, Albert P., Curator of Natural History (*active*).
  - Morse, Edward S., Director (*active*).
  - Robinson, John, Keeper of East India Marine Society Relics (*active*).

SPRINGFIELD:
  Springfield Art Museum (*sustaining*).
TUFTS COLLEGE:
  Tufts College (*non-member*):
    Bumpus, Hermon C., President (*active*).
WELLESLEY.
  Wellesley College, Zoological Museum (*non-member*):
    Morse, Albert P., Curator (*active*).
WORCESTER:
  Worcester Art Museum (*sustaining*).

MICHIGAN

ANN ARBOR:
  University of Michigan, Museum of Zoology (*non-member*):
    Ruthven, Alexander G., Director (*active*).
  Unattached:
    Gaige, Mrs. Frederick M. (*active*).
BATTLE CREEK:
  Battle Creek Public School Museum (*sustaining*).
DETROIT:
  Detroit Museum of Art (*non-member*):
    Burroughs, Clyde H., Secretary and Assistant Director (*active*).
GRAND RAPIDS:
  Grand Rapids Public Library (*non-member*):
    Ranck, Samuel H., Librarian (*active*).
  Kent Scientific Museum (*non-member*):
    Sargent, Herbert E., Director (*active*).
  Unattached:
    Bemis, Lloyd (*associate*).
    Martin, Joseph (*associate*).
HOUGHTON:
  Houghton Public Schools (*non-member*):
    Doelle, John A., Superintendent (*active*).
LANSING:
  Michigan Historical Commission (*sustaining*).
MUSKEGON:
  Hackley Art Gallery (*non-member*):
    Wyer, Raymond, Director (*active*).
PORT HURON:
  Public Library (*non-member*):
    Slenau, Katharyne G., Librarian (*active*).

MINNESOTA

MINNEAPOLIS:
  Minneapolis Institute of Arts (*sustaining*):
    Jackson, Margaret T., Director's Assistant (*active*).
ST. PAUL:
  St. Paul Institute (*non-member*):
    Sweeney, Arthur, Secretary (*active*).

MISSOURI

DOE RUN:
  Graves Private Museum (*non-member*):
    Graves, F. P. (*life*).
KANSAS CITY:
  Daniel B. Dyer Museum (*non-member*):
    Jacobs, Mrs. Ophelia, Curator (*active*).
  Fine Arts Institute (*non-member*):
    Sexton, Winifred, Secretary (*active*).
ROLLA:
  School of Mines (*non-member*):
    Cunningham, Jesse (*active*).
ST. LOUIS:
  Educational Museum (*non-member*):
    Rathmann, Carl G., Director (*active*).
  Missouri Botanical Garden (*non-member*):
    Greenman, Jesse More, Curator of Herbarium (*active*).

NEBRASKA

LINCOLN:
  Nebraska State Historical Society (*non-member*):
    Paine, Clarence S., Secretary (*active*).
  State Museum (*non-member*):
    Barbour, Erwin Hinckley, Curator (*active*).
OMAHA:
  Omaha Public Library and Museum (*non-member*):
    Tobitt, Edith, Librarian (*active*).

NEW JERSEY

DEMAREST:
  Unattached:
    Ashley, William Bevier (*active*).
JERSEY CITY:
  Unattached:
    Lindberg, Thure H. (*active*).
    Macdonald, Angus Snead (*active*).
NEWARK:
  Newark Museum Association (*sustaining*):
    Dana, John Cotton, Secretary and Director (*active*).
    Foster, Helen W., Assistant (*active*).
    Kendall, Alice W., Assistant (*active*).
PRINCETON:
  E. M. Museum (*non-member*):
    Libbey, William, Director (*active*).
  Museum of Princeton University (*non-member*):
    Silvester, Charles F., Curator of Zoology (*active*).
TRENTON:
  New Jersey State Museum (*non-member*):
    Morse, Silas R., Curator (*active*).

NEW YORK

ALBANY:
  New York State Museum (*sustaining*):
    Clarke, John M., Director (*active*).
BROOKLYN:
  Central Museum, Brooklyn Institute of Arts and Sciences (*sustaining*):
    Aitkin, Helen J., Assistant Curator, Division of Conchology (*active*).
    Fox, William Henry, Director of Museums (*active*).
    Goodyear, Wm. H., Curator of Fine Arts (*active*).
    Hutchinson, Susan A., Curator of Books (*associate*).
    Morris, Mrs. M. B., Docent (*active*).
  Children's Museum, Brooklyn Institute of Arts and Sciences (*non-member*):
    Gallup, Anna Billings, Curator (*active*).
BUFFALO:
  Albright Art Gallery (*non-member*):
    Sage, Cornelia Bentley, Director (*active*).
  Buffalo Historical Society (*sustaining*).
  Buffalo Society of Natural Sciences (*sustaining*):
    Bryant, William L., Custodian of Museum (*active*).
    Cummings, Carlos E., Secretary (*active*).
    Howland, Henry R., Superintendent (*active*).
NEW BRIGHTON:
  Museum of Staten Island Association of Arts and Sciences (*non-member*):
    Hollick, Arthur, Director (*active*).
    Pollard, Agnes L., Curator (*active*).
NEW YORK CITY:
  American Art Annual (*non-member*):
    Levy, Florence N., Editor (*associate*).
  American Geographic Society (*sustaining*):
    Huntington, Archer M. (*patron*).
  American Museum of Natural History (*sustaining*):
    Akeley, C. E., Taxidermist (*active*).
    Allen, J. A., Curator of Mammalogy and Ornithology (*active*).
    Chapman, Frank M., Curator of Ornithology (*active*).
    Dean, Bashford, Curator of Fossil Fishes (*active*).
    Hood, Ida Richardson, Assistant Librarian (*active*).
    Hovey, Edmund Otis, Curator, Department of Geology and Invertebrate Paleontology (*active*).
    Kunz, George F., Honorary Curator of Gems (*active*).
    Lucas, Frederic A., Director (*active*).
    Lucas, Jannette May, Assistant, Osborn Library of Vertebrate Paleontology (*active*).
    Miner, Roy W., Assistant Curator of Invertebrate Zoology (*active*).
    Sherwood, George H., Assistant Secretary (*active*).
    Tower, Ralph W., Curator of Books and Publications (*active*).
    Wissler, Clark, Curator of Anthropology (*active*).
  American Museum of Safety (*sustaining*).

American Numismatic Society (*sustaining*):
    Huntington, Archer M. (*patron*).
    Wood, Howland, Curator (*active*).
Boy Scouts of America, New York City Council (*non-member*):
    Pollard, Charles Louis, Executive Deputy Scout Commissioner (*active*).
Hispanic Society of America (*sustaining*):
    Huntington, Archer M. (*patron*).
Metropolitan Museum of Art (*sustaining*):
    Dean, Bashford, Curator of Arms and Armor (*active*).
    de Forest, Robert W., President (*active*).
    Kent, Henry W., Secretary (*active*).
    Robinson, Edward, Director (*active*).
Museum of the Arts of Decoration, Cooper Union (*non-member*):
    Hewitt, Eleanor G., Curator (*active*).
New York Aquarium (*non-member*):
    Townsend, Charles H., Director (*active*).
New York Botanical Garden (*sustaining*):
    Britton, N. L., Director-in-chief (*active*).
    Howe, Marshall A., Curator of Museums (*active*).
    Small, John K., Head Curator of Museums and Herbarium (*active*).
New York Zoological Park (*non-member*):
    Hornaday, William T., Director (*active*).
Russell Sage Foundation, Department of Surveys and Exhibits (*non-member*):
    Routzahn, E. G., Associate Director (*active*).
Unattached:
    Cooper-Prichard, A. H. (*active*).

ROCHESTER:
Municipal Museum (*non-member*):
    Putnam, Edward D., Curator (*active*).
University of Rochester (*non-member*):
    Dodge, Charles Wright, Curator of Botany and Zoology (*active*).
Ward's Natural Science Establishment (*non-member*):
    Ward, F. Hawley (*active*).

SOUTHAMPTON:
Southampton Art Museum (*non-member*):
    Parrish, Samuel L. (*life*).

SYRACUSE:
New York State College of Forestry (*non-member*):
    Adams, Charles C., Forest Zoologist (*active*).
    Baker, Frank C., Zoological Investigator (*active*).

NORTH CAROLINA

RALEIGH:
North Carolina State Museum (*non-member*):
    Adickes, Thomas W., Assistant Curator (*active*).
    Brimley, Herbert H., Curator (*active*).

NOVA SCOTIA

HALIFAX:
  Provincial Museum (*non-member*):
    Piers, Harry, Curator (*active*).

OHIO

CINCINNATI:
  Cincinnati Museum Association (*sustaining*):
    Gest, J. H., Director (*active*).
  University of Cincinnati (*non-member*):
    Fenneman, N. M., Professor of Geology (*active*).
    Maddox, Robert D., Curator, Medical Museum (*active*).

CLEVELAND:
  Board of Education (*non-member*):
    McCornack, W. P., Architect (*active*).
  Cleveland Museum of Art (*sustaining*):
    Whiting, Frederic Allen, Director (*active*).

COLUMBUS:
  Ohio State Archeological and Historical Society (*non-member*):
    Mills, William C., Curator and Librarian (*active*).

GREENVILLE:
  Museum of Carnegie Library (*non-member*):
    Katzenberger, George A., Curator (*active*).

OBERLIN:
  Oberlin College, Zoological Museum (*non-member*):
    Jones, Lynds, Curator (*active*).

ONTARIO

OTTAWA:
  Geological Survey of Canada (*sustaining*):
    Johnston, R. A. A., Mineralogist and Curator (*active*).
    Smith, Harlan I., Archeologist (*active*).
  Unattached:
    Ami, Henry M., Strathcona Park (*active*).

TORONTO:
  University of Toronto (*non-member*):
    Montgomery, Henry, Head Curator of New General Museum (*active*).

OREGON

PORTLAND:
  Portland Art Association (*non-member*):
    Crocker, Anna B., Curator (*active*).
    Failing, Henrietta H., Late Curator (*active*).

PENNSYLVANIA

ARDMORE:
- Unattached:
  - Townsend, Louis H., Osteologist (*active*).

ERIE:
- Erie Public Museum (*non-member*):
  - Austin, Thomas L., Curator (*active*).

HARRISBURG:
- Pennsylvania State Museum (*sustaining*):
  - Rothrock, Boyd P., Curator (*active*).
  - Rothrock, Mrs. Boyd P., Accessionist and Foliage Worker (*active*).

PHILADELPHIA:
- Academy of Natural Sciences of Philadelphia (*sustaining*):
  - Brown, Stewardson, Curator of Herbarium (*active*).
  - Stone, Witmer, Curator (*active*).
- Museum of the Grand Lodge of F. and A. M. of Pennsylvania (*sustaining*):
  - Sachse, Julius F., Curator and Librarian (*active*).
- Pennsylvania Museum and School of Industrial Art (*sustaining*):
  - Barber, Edwin AtLee, Director of Museum (*active*).
  - Stevenson, Mrs. Cornelius, Assistant Curator and Lecturer (*active*).
- The Philadelphia Museums (*sustaining*):
  - Fisher, William L., Assistant Curator (*active*).
  - Schoff, Wilfred H., Secretary and Assistant Treasurer (*active*).
  - Toothaker, Charles R., Curator (*active*).
  - Wilson, W. P., Director (*active*).
- University of Pennsylvania, University Museum (*sustaining*):
  - Gordon, G. B., Director (*active*).
  - Houston, S. F., Trustee (*active*).
- Wagner Free Institute of Science (*non-member*):
  - Rothermel, John G., Director (*active*).
- The Wistar Institute of Anatomy (*non-member*):
  - Greenman, Milton J., Director (*active*).
  - Perine, Clara N., Assistant to Director (*active*).
- Unattached:
  - Foote, Warren M., Mineralogist (*active*).

PITTSBURGH:
- Carnegie Institute, Department of Fine Arts (*non-member*):
  - Beatty, John W., Director (*active*).
  - Hyett, W. J., Assistant in charge of Galleries (*active*).
- Carnegie Institute, Department of the Museum (*sustaining*):
  - Atkinson, D. A., Custodian of Reptiles (*active*).
  - Coggeshall, Arthur S., Preparator-in-chief, Department of Paleontology (*associate*).
  - Courtney, Mrs. Addison, Assistant (*associate*).
  - Eigenmann, Carl H., Curator of Ichthyology (*active*).
  - Holland, W. J., Director (*life*).
  - Hughes, D. C., Assistant, Section of Archeology and Ethnology (*active*).
  - Jennings, Otto E., Assistant Curator of Botany (*active*).

Kahl, Paul Hugo Isidore, Custodian, Section of Entomology (*active*).
Ortmann, Arnold E., Curator of Invertebrate Zoology (*active*).
Peterson, Olaf August, Field Collector and Preparator of Mammals and Birds (*active*).
Santens, Remi H., Chief Preparator, Taxidermic Laboratory (*active*).
Sterki, Victor, Assistant in Conchology (*active*).
Stewart, Douglas, Assistant to Director (*active*).

Unattached:
Coggeshall, Ethyl A. (*associate*).
Santens, Mrs. Remi H. (*associate*).

READING:
Reading Public Museum (*non-member*):
Mengel, Levi W., Director (*active*).

RHODE ISLAND

PROVIDENCE:
Park Museum (*non-member*):
Madison, H. L., Curator (*active*).
Magoon, Eva W., Assistant to the Curator (*active*).
Rhode Island School of Design (*non-member*):
Rowe, Louis Earle, Director (*active*).

SASKATCHEWAN

REGINA:
Provincial Museum, Department of Agriculture (*sustaining*).

SOUTH CAROLINA

CHARLESTON:
The Charleston Museum (*sustaining*):
Kollock, Charles W., Secretary (*active*).
Rea, Paul M., Director (*active*).
Sharpe, Jesse, Treasurer (*active*).
Stoney, Samuel G., Trustee (*active*).
Weeks, Laura L., Secretary to the Director (*active*)

TEXAS

HOUSTON:
Houston Museum and Scientific Society (*non-member*):
Brock, Clarence L., Director (*active*).

UTAH

SALT LAKE CITY:
Deseret Museum (*sustaining*):
Talmage, James E., Director (*life*).

VERMONT

BURLINGTON:
University of Vermont (*non-member*):
Perkins, George H., Curator of Museum (*active*).
ST. JOHNSBURY:
The Fairbanks Museum of Natural Science (*sustaining*).

WALES

CARDIFF:
National Museum of Wales (*non-member*):
Hoyle, William Evans, Director (*active*).

WASHINGTON

SEATTLE:
University of Washington, State Museum (*non-member*):
Albrecht, Clarence J., Director of Vertebrate Exhibits (*active*).
Hall, F. S., Curator (*active*).
Washington State Art Association (*sustaining*):
Berg, George L., Director (*active*).

WISCONSIN

BELOIT:
Beloit College, Art Department (*non-member*):
Emerson, Mrs. Helen B., Curator (*active*).
MADISON:
State Historical Museum of Wisconsin (*non-member*):
Brown, Charles E., Chief (*active*).
MILWAUKEE:
Public Museum of the City of Milwaukee (*sustaining*):
Allen, Eleanor C., Artist (*active*).
Barrett, S. A., Curator of Anthropology (*active*).
Brah, Bernard H., Assistant, Department of Anthropology (*active*).
Brinckley, William J., Assistant, Departments of Geology and Vertebrate Zoology (*active*).
Clowes, Herbert, Landscape Modeler (*life*).
Graenicher, Sigmund, Curator of Invertebrate Zoology (*active*).
Peaslee, Leon D., Curator of Education (*active*).
Plambeck, R., Photographer (*active*).
Pope, T. E. B., Associate Lecturer (*active*).
Rohde, Paul C., Assistant Taxidermist (*active*).
Shrosbree, George, Chief Taxidermist (*active*).
Ward, Henry L., Director (*active*).
Unattached:
Shrosbree, Mrs. George (*associate*).

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